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# **Review Article**

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# The Rumors of Television's Demise Have Been Greatly Exaggerated: What the Data Say about the Future of Television Content in a Child's Digital World

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# Abstract

There has been a great deal of controversy and speculation about the impact of the Internet and related digital media on traditional media, particularly television. Some have predicted—and sometimes purport to have discovered—a sharp decline in use of traditional media in general and television viewing in particular. Obviously, confirmation of the future awaits the passage of time. However, data of excellent quality and undeniable pertinence exist that identify the likely future pattern. Three representative national surveys of 8-18 year olds-- each about five years apart-- report on comprehensive media use in the United States. At the time of the first (1999), Internet use was well underway. By the time of the second (2004), Internet use had reached a high state of development, and by the time of the third (2009), wireless broadband was widely available for use in handheld devices, tablet computers, and portable laptops. Between 1999 and 2009, time spent on the Internet more than tripled (3.6x) and new uses, not significant at the time of the first survey, appeared by the second and third surveys. However, traditional media— screen, audio, print—did not see the drastic decreases many had expected. Instead, total time devoted to television content increased considerably, but real differences in how that content is being accessed have emerged.

Keywords: Children; Television; Media use; Digital media

# Introduction and Theory

There has been a great deal of controversy and speculation about the impact of the Internet and its many guises and other attractive newer media on traditional media, and particularly television. Some have predicted significant declines in the use of traditional media as a consequence of the popularity of newer media. The evidence in behalf of the suppression of traditional media – television; books, newspapers, and magazines; compact discs and radio; and videos - has fallen into three categories. One is the popularity of various Internet offerings, usually measured in clicks or visits over a period of time. Another is the purported decreases in audience numbers for particular offerings, such as televised sports or television entertainment programs. A third has been the well-publicized marketing problems of certain media particularly sales of traditional music recordings (CDs) and the bidding for network commercial time (the top 5 scripted broadcast network shows in 2002 drew just over \$400,000 per 30-second commercial spot compared to \$214,000 per spot in 2009) [1].

We have no quarrel with the general proposition that media marketplaces have been undergoing considerable change. However, we believe that is important to distinguish between changes in public allocation of time and changes in the markets for media. The latter may shift dramatically – in terms of their more visible components – with new technologies and the opportunities they offer for entertainment and information with minor or much slower changes in the actual allocation of time. Fortunately, data are available that allow us to examine quite rigorously the impact of new media on the time spent with traditional media.

# **Understanding Television Viewing Behavior**

There is fifty years of social science research about broadcast television viewing behavior. That research provides important insights as to why and how people (mostly Americans) watch television and provides some ideas of how their TV-watching behavior adapts to new media or changes in the technological delivery systems. This section of the paper reviews some of the most relevant findings of that research and uses it to analyze factors affecting projected television viewing behavior in the digital, hand-held, wireless broadband world that today's children inhabit. The following questions are the critical ones:

- Why do people view TV?
- When do they watch and how much time is devoted to it?
- How often will people watch TV out of the home?
- How does TV fit into peoples' schedules?
- How will these viewing patterns translate to digital media, if at all?

Mass communication researchers say that we engage in television use for three primary reasons—1) diversion, 2) social comparison, and 3) keeping aware of what's happening in the world [2,3]. Diversion refers to our motivation to escape from our problems and stress caused by work, school, family, relationships and so on. Television viewing is able to provide us a respite from the events of our daily lives that raise

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our stress levels. Stressed, anxious, or lonely people tend to watch more television than those who are not so stressed [4] and television viewing has the ability to relieve stress among children in certain circumstances [5]. A major reason for viewing television is in the continuing process of "social comparison" made prominent in social psychology by Festinger [6]. Social comparison means that people follow television with an emphasis on how they measure up to others. Viewers pay far more attention to people on the screen like themselves in terms of race, age, or gender [2].

Mass media theorists classify media users as either ritualistic or instrumental. Ritualistic media use implies that the medium is consumed regardless of content. Instrumental use, however, is driven by specific content. If we were to examine TV viewing, for example, we would see that in ritualistic viewing, the experience of the medium that is, the gratification of watching television itself - takes precedence over any particular content. For ritualistic viewers, the decision to watch television precedes the search for satisfactory content. Specific content can and does influence what we view once we make the decision to watch television. It is just not the driving force for most of us most of the time in deciding to watch TV. We decide to watch television in certain situations and then we search for a program that we find acceptable. Our decision to watch is not really based on the available programming, but, rather, on the time we have available to watch television. Measurements show that most Americans are ritualistic in their viewing most of the time.

Instrumental viewing, meanwhile, is driven by a desire to see particular content. If the content is not available, then the individual will not watch. If for instance, a person is interested in finding out how a particular stock price is changing, she will turn on a financial news show to find out. If someone wants to watch a particular sports match, she will only watch that event. If the game were cancelled, an instrumental viewer would not watch another program. A ritualistic viewer, on the other hand, would keep the television on and find something else to watch. For an instrumental viewer, attention to the medium is driven by content. Most news content viewing is considered instrumental. Instrumental viewing accounts for less of the audience and less viewing time than ritualistic viewing.

When we do watch, we tend to spend most of our time "monitoring" television, rather than paying close attention to the screen. Monitoring refers to paying enough attention to audio and visual cues to follow the narrative while giving less than full attention to the screen [7]. This often leads to viewers engaging in other secondary or tertiary activities while watching television—cooking, cleaning, checking email, paging through a magazine, etc.

Television remains the dominant medium in the United States with the average person spending more time with the medium than they do for any other life activity except sleep and work [8]. Viewers, while difficult to predict at an individual level, are remarkably consistent in the aggregate when it comes to television viewing. Researchers have identified various patterns that influence viewing including 1) the life span, 2) seasonal variations, 3) the weekly cycle, and 4) the daily cycle.

1) *Life Span.* TV viewing begins at about age 2 and increases until the start of school, where a slight dip is recorded. Viewing increases during the elementary school years, decreases during high school and college, and then returns to childhood levels in adulthood. There is yet another slight increase as viewers enter retirement [9].

2) Seasonal Variations. Contrary to conventional wisdom, seasonal variations for television viewing are quite minor. There is a popularly held belief that summer viewing of television decreases dramatically when, in reality, it is barely 10% less than the fall-winter seasons [10]. This is an exceptionally small deficit when we consider the frequency of reruns, improved weather (thus, more outside activities), vacation/ leisure travel (these viewers tend not to be included in the ratings, even though odds are that they are still watching television while on vacation), and the increased amount of viewing by children and teenagers—who tend to be under-represented by rating measurement tools.

3) Weekly Cycle. As for the weekly cycle, television is almost always abandoned when more attractive activities are available. For example, the audience on Friday and Saturday evenings is 15% less than on other nights. The number of children in the audience, meanwhile, increases by 20% on Fridays, Saturdays, and Sundays. Overall, the largest television audience can be found on Sunday evenings and the smallest on Friday evenings. The greatest number of children viewing television can be found on Friday evenings and Saturday mornings [10].

4) *Daily Cycle.* The daily viewing cycle is influenced by those available in the audience at particular times. For instance, children age 6-11 watch some television in the morning before school, virtually none during school hours, and then they watch after school up until about 9 p.m. where they disappear from the audience. Adult men represent only a sliver of the overall television audience until prime time, and women begin watching in the morning and their viewing increases steadily during the day—peaking in prime time, as it does with all groups [2,10].

#### Scheduling and Time

The old broadcast model of television content distribution was based on a "movie theater" paradigm. Programs were scheduled to air at a particular time to attract "audiences." To access specific content, viewers had to organize their viewing around that schedule. Of course, given the ritualistic nature of most viewing, this was not perceived as much of a constraint. For two decades, however, new media technologies have been eroding the scheduling paradigm of television. The videotape player/recorder, TiVo/DVR, cable TV-delivered video on demand, and DVDs all give viewers more control over what they see and when they see it. A still relatively small but growing chunk of the national audience watches TV programs streamed to their computers (this is especially popular across college campuses where wireless broadband access is available and access to cable television is either limited or cost-prohibitive).

The traditional scheduling paradigm makes the assumption that people watch television exclusively at home and primarily in the evening. In fact, until recently, Nielsen Media Research didn't even bother measuring anyone who watched TV outside the home. Recent research shows that almost 30% of people watch some TV outside the home. Viewing outside the home accounts for nearly 10% of all television viewing [11].

#### Application to Viewing TV in a Digital Environment

What does this corpus of research tell us about TV viewing for kids growing up in today's digital media environment? The first, most obvious conclusion is that the major players in the portable digital device (PDD) TV market seem to be completely unaware of the research on why and how people watch television, and are making false assumptions as a result. Consider this opening segment from a brochure promoting Qualcomm's MediaFLO from a few years ago:

"Imagine a world where consumers are able to have live television or radio...delivered to their wireless mobile devices at all times. Wherever they go and whenever they want it. No more missing their favorite show while waiting in the airport, or on the train. No more missing their favorite baseball game, or their favorite radio talk show. The ability to stay tuned in to everything you care about – when you care about it [12]."

This description makes the faulty assumption that Americans view entertainment programs instrumentally; i.e., that they watch television in order to access specific programs. As noted above, this is not true of most TV viewing, most of the time. It also assumes that people outside the home will be cognizant of, and willing to follow, the schedule of the TV broadcasters, which may or may not be true. If having a digital device capable of receiving TV content is just like having a TV set in the room, we might expect that the mobile TV devices to increase ritualistic viewing and offer vastly expanded possibilities for diversion. But this is probably false in today's digital media world. To begin with, portable digital devices have a very different set of social norms and expectations associated with their use. People are more accustomed to interacting with their portable digital devices than they are to turning it on and passively watching it. Also, TV on a PDD is confronted with costs and resource constraints that make it very different from home TV viewing. Most importantly, even by 2011 standards a mobile device's battery power is severely limited; users will not want to consume it indiscriminately for what are perceived as nonessential functions. They may need battery power later for other purposes: texting, placing voice calls, listening to music, checking the weather, watching viral clips on YouTube, posting status updates and photos on Facebook, commenting via Twitter, etc. The converged portable digital device offers many competing, less energy-intensive forms of diversion than TV broadcasts, such as games or downloaded music playback.

Another normative factor that should not be underestimated is the idea that the portable digital device (smart phone, iPod touch, laptop, iPad, etc.) is not (yet) optimized for passive viewing. Unlike the home television, which sits in a visible spot on its own, most portable digital devices must be held in the hand for the screen to be viewed properly. This is not conducive to long bouts of ritualistic, casually monitored viewing.

The typical portable digital device approach to accessing video content, therefore, is likely to be far more instrumental. Users will try to access specific forms of television content that they want or need for utilitarian purposes when they are on the go. One example is the need for highly exceptional news, weather or sports events that catch people in unexpected situations and create an immediate demand for information, such as a terrorist attack, a tsunami, a military attack, finding out who is winning the game when you are traveling, weather updates, etc. This attitude toward video access is reinforced by the interactive nature of portable digital devices, as referenced above. Just as the iPod and the digitization of music encourages users to disaggregate albums and pick and choose among specific tracks and programs, so the same attitude will be applied, it would seem, to television video content. It is difficult to make a case for ritualistic viewing via portable digital devices in 2011. It could only happen if viewing is free, power outlets are readily available, and the device owner is stuck in situations that are routine and repeated, creating a regular need for diversion (e.g., a long commute to work via public transportation, waiting in line while running errands, waiting for a dentist or doctor, etc). However, in many of these situations people can already get traditional TV broadcasts from other sources. Most medical offices, airports and other waiting areas offer television, at least in the U.S. Thus, prospects for using portable digital devices for the kind of diversionary, ritualistic viewing associated with broadcast television in the home are not good (as is evidenced by Qualcomm's announcement to end the FLO TV service as of November, 2010).

As for the time cycles discussed above, while these cycles deal with home television viewing, it is unlikely that we would see a significant change due to portable digital devices becoming more widely available. Children still have to go to school. Parents still need to work. Stay-athome parents are still likely to watch television at home. Teenagers will still have part-time jobs, lots of extracurricular activities, interests in music, interests in dating, and so on. What we should expect in the future then-at least for those children with wireless broadband devices-would be an overall increase in instrumental television viewing via new/digital media devices (via DVR, iPhone, iPad, Hulu, etc.) and a slight decrease in ritualistic viewing. In other words, as children spend more time with digital devices that are capable of providing television content, it makes sense that they would access said content instrumentally in addition to still watching television in the traditional way. We are able to advance two crude, sweeping, and competing notions that derive from very general views about the mass media and technological change. The "revolution in media" perspective would predict substantial diminution in use of traditional media accompanied by an increase in use of newer media; that is, displacement of one by the other. The "stability in popular media" perspective would predict at most modest changes in a downward direction among older media; the opposite, then - resistance to displacement. However, our interest in fact is quite modest in testing the validity of these perspectives. Instead, we see the present data primarily as an opportunity to examine empirical support for popular and widely publicized conclusions about media use.

We anticipate one of three possible patterns:

- A noteworthy increase in use of newer media and a comparable decline in the use of traditional media, specifically television. This, of course, would support the revolution perspective.
- Modest or no change in the use of traditional media (screen, audio, print) and small increases in the use of newer media. Such a surprising outcome would support the stability perspective.
- 3. Modest or little change in the use of traditional media accompanied by substantial increases in the use of newer media, with the explanation lying in the revised allocation of overall time. This would support both the revolution perspective (by recording significant change) and the stability perspective (by failing to record marked declines in use of traditional media).

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### Method and Data

The data on which we draw consist of three large United States probability samples of about 2,000 eight- to 18-year olds [13-15]. The first sample was interviewed in 1999. The second sample was interviewed five years later in 2004, and the third sample was interviewed in 2009. The design in effect is a quasi-experiment with independent samples. The three surveys in question are part of an on-going series of studies by the Kaiser Family Foundation about media use and exposure among 8 to 18-year-olds. All three surveys included samples from schoolchildren enrolled in public or private schools across the United States, employing a stratified, two-stage method. In stage one, schools were randomly selected and in stage two, grade levels and specific classrooms were selected to participate. The margin of sampling error for the most recent survey is +/- 3.9% and the data were weighted to ensure a nationally representative sampling of school children. Subjects completed 40-minute, self-administered questionnaires within the context of the school day<sup>1</sup>.

The first study in question, *Kids & Media at the New Millennium*, is based on a nationally representative sample of 2,065 children between the ages of 8 and 18. The project was designed by the Kaiser Family Foundation in conjunction with researchers at Stanford University. The data were collected by Harris Interactive in 1999. Students in grades 3-12 completed self-administered questionnaires during school hours about how much time they spent with media the previous day. The media variables included in the 1999 included the amount of time spent with the following: television, computers, movies, videos, video games, books, magazines, newspapers, radio, and CDs and cassette tapes. The margin of error for the former sample is +/-3%, and +/-5% for the latter. The overall margin of error, for both samples combined is +/-3% [13].

The second study, *Generation M: Media in the Lives of 8-18 Yearolds*, is based on a nationally representative sample of 2,032 children in grades 3-12. As with the1999 data, the project was designed by the Kaiser Family Foundation in conjunction with researchers at Stanford University, and the data were collected by Harris Interactive in 2005.

All respondents completed self-administered questionnaires in school asking them about their media use the previous day. While most of the media questions remained the same from 1999 (television, videos, movies, computers, video games, books, magazines, newspapers, radio, CD, cassette tapes), additional media were added—the Internet, DVDs, and MP3 players. The overall margin of error for the 2005 sample was +/-3.8% [14].

The most recent study, *Generation M2: Media in the Lives of 8-18 Year-olds*, is based on a nationally representative sample of 2,002 children in grades 3-12. As with the two previous iterations, the project was designed by Kaiser and researchers at Stanford University, and, again, the data were collected by Harris Interactive.

The respondents again completed self-administered questionnaires in school asking about their media use from the previous day. The media included in the study included the following: television, movies, video games, music, computers, newspapers, magazines, and books. Since the media landscape had changed considerably since the first study in 1999, a few points need to be addressed. First, time spent texting or talking on cell phones did not count as media use, but time spent using phones to listen to music, play games, surf the web, or watch video content did count as media use. Second, because of the additional media distribution/consumption methods developed since the turn of the century, it's worth noting what is and is not included with each type of media measured.

Computer time includes both online and offline activities for entertainment reasons, but does NOT include time spent watching DVDs, listening to music, or watching TV. The variable "movies" only refers to time spent watching movies in a theater. Music refers to time spent listening to music via radio, CDs, cell phones, smart phones, iPods/MP3 devices, and via computer (iTunes, Pandora, online radio, etc.). Print media refers to the amount of time spent reading printed copies of books, magazines or newspapers (again, for entertainment reasons-not school-related work). Not included in the print media variable is time spent reading for pleasure on digital devices (iPods, laptops, etc.) as that activity counts as computer use. Television use is broken down into three categories—"live TV," "time-shifted TV," and "total TV exposure." Live TV refers to watching television programming on a TV at the time it was scheduled by the cable/broadcast network. Time-shifted TV refers to watching TV content on-demand and/or via DVR (or other recorded device). "Total TV exposure," however, includes live TV viewing, time-shifted viewing, and DVDs viewed on a TV set or a computer, or TV or movies viewed via smart phones (or other hand-held digital devices), or any kind of online activity. Finally, Video game use includes any time spent playing video games via console, handheld device, or cell phone. Time spent playing computer games counts as computer use and not video game use.

The combined margin of error for the 2009 project is +/-3.9%, consistent with the two previous media use studies.

Obviously, the questionnaire had to be updated a bit to account for all of the changes in the media landscape from 1999 to 2009. "New" ways for kids to engage in media use since 1999 include instant messaging, iPods, social networks, and time-shifted viewing of television content. In all three studies, only recreational media use was included in overall media use. School-related media use (reading a book assigned for class, conducting online research for a school project, etc.) is not included.

It's also important to explain the difference between the concepts "media exposure" and "media use." The former refers to the additive amount of media content consumed in a day. For example, to get at the media exposure total, we would add the amount of time a respondent spends reading, watching TV, going to see movies at the theater, playing video games and using the computer. Total media use, however, takes into account that many young people often spend time with multiple media simultaneously (like checking Facebook while watching TV). Media use, then, is the overall media exposure minus the amount of time, proportionally, that one spends engaged in media multitasking. Media use is a better indicator of how many hours per day kids spend with media. Total media exposure is always greater than total media use [15].

These data are well suited to answer questions about the possible suppression of traditional media by newer media. They do so as a consequence of several attributes:

<sup>&</sup>lt;sup>1</sup>The complete survey instrument and more detailed methodology description can be found in Rideout, V., Foehr, U.G., & Roberts, D.F., (2009). *Generation M2: Media in the lives of 8-18 year-olds. A Kaiser Family Foundation Study.* Menlo Park, CA: Henry J. Kaiser Family Foundation. Available at http://www.kff.org/entmedia/8010.cfm.

- Large, nationally representative samples.
- Identical questions and procedures of data collection at all three points in time.
- Substantial development of the Internet and newer media over the five years covered between 1999 and 2004.
- Substantial development of wireless broadband and portable digital devices over the five years covered between 2004 and 2009.

#### Results

Table 1 serves two purposes. First, it indicates that in these data demographic factors do not play a dramatic role, and while they always merit attention from those in media businesses they do not in this case pose any challenges for interpretation. We decided to compare media exposure results from the 2004 and the 2009 data sets because this is when the U.S. experienced a digital media adoption boom among children. It was during this five-year period that kids became accustomed to iPods, Facebook, Twitter, smartphones, iPads, laptops, and DVRs-all made viable by the ubiquity of broadband Internet access. Total media exposure and total media use for 8- to 18-year-olds, by age, gender, race, and parent education at two data points-2004 and 2009 were analyzed via one-way analyses of variance. Overall, we see that media exposure increased significantly from 2004 to 2009 from 8 hours 33 minutes per day (8:33) to 10 hours 45 minutes per day (10:45) (p < .05). Children aged 8-10 saw a statistically significant increase from 8:05 to 7:51 (p < .05); 11-14 year-olds from 8:41 to 11:53 (p < .05); and 15-18 year-olds from 8:44 to 11:23 (p < .05). In terms of

	Total med	Total media exposure		Total media use	
	2004	2009	2004	2009	
Overall	8:33	10:45 <sup>*</sup>	6:21	7:38 <sup>*</sup>	
Age					
8 to 10	8:05	7:51 <sup>*</sup>	5:52	5:29	
11 to 14	8:41	11:53 <sup>*</sup>	6:33	8:40 <sup>*</sup>	
15 to 18	8:44	11:23*	6:31	7:58 <sup>*</sup>	
Gender					
Boys	8:38	11:12 <sup>*</sup>	6:21	7:51 <sup>*</sup>	
Girls	8:27	10:17*	6:19	7:37 <sup>*</sup>	
Race					
White (non-Latino)	7:58	8:36 <sup>*</sup>	6:15	6:22	
Black (non-Latino)	10:10	12:59 <sup>*</sup>	6:30	9:44 <sup>*</sup>	
Latino	8:52	13:00 <sup>*</sup>	6:30	9:14 <sup>*</sup>	
Parent education					
High school or less	8:30	11:26*	5:54	8:07 <sup>*</sup>	
Some college	8:02	11:30 <sup>*</sup>	6:26	8:03*	
College graduate	8:55	10:00 <sup>*</sup>	6:42	7:12 <sup>*</sup>	

Indicates statistically significant differences between 2004 and 2009 (p < .05). Statistical differences (one-way ANOVA) were found between 2004 and 2009 for every category EXCEPT for total media use for 8 to 10-year-olds and White (non-Latino). It is worth noting that all categories saw a significant increase in total media exposure and media use except for total media exposure for the 8 to 10-year-old category, which saw a statistically significant decrease.

Adapted from Rideout, V., Foehr, U.G., & Roberts, D.F., (2009). *Generation M2: Media in the lives of 8-18 year-olds. A Kaiser Family Foundation Study.* Menlo Park, CA: Henry J. Kaiser Family Foundation. Accessed 1/30/2011 at http://www. kff.org/entmedia/8010.cfm.

2004 N= 2,032

2009 N= 2,002

Table 1: Total media exposure and total media use for 8- to 18-year-olds, by age, gender, race, and parent education at two data points—2004 and 2009.

Medium	1999	2004	2009
Live TV	3:05	3:04	2:39*
Total TV	3:47	3:51	4:29 <sup>*</sup>
Movies	0:18	0:25	0:25
Print media	0:43	0:43	0:38*
Audio media	1:48	1:44	2:31 <sup>-</sup>
Computers	0:27*	1:02 <sup>*</sup>	1:29 <sup>*</sup>
Video games	0:26*	0:49*	1:13 <sup>∗</sup>
TOTAL EXPOSURE	7:29 <sup>*</sup>	8:33 <sup>*</sup>	10:45 <sup>*</sup>
TOTAL USE	6:19	6:21	7:38 <sup>∗</sup>

<sup>\*</sup> These are the statistically significant changes (one-way ANOVA) over time (p < .05). All statistically significant changes were due to an increase in media exposure or media use EXCEPT for "Live" TV and print media.

Adapted from Rideout, V., Foehr, U.G., & Roberts, D.F., (2009). *Generation M2: Media in the lives of 8-18 year-olds. A Kaiser Family Foundation Study.* Menlo Park, CA: Henry J. Kaiser Family Foundation. Accessed 1/30/2011 at http:// www.kff.org/entmedia/8010.cfm.

N (1999) = 2,065

N(2004) = 2,032

N (2009) = 2,002

 Table 2: Comparisons of the total media exposure and total media use figures for

 8- to 18-year-olds over a ten-year span across three data points.

gender, boys saw an increase in media exposure from 8:38 to 11:12 (p < .05), and girls saw a statistically significant increase from 8:27 to 10:17 (p < .05). In terms of race, we see a statistically significant increase across the three largest groups—whites (non-Latino) from 7:58 to 8:36; among African-Americans (non-Latino) from 10:10 to 12:59; and among Latinos from 8:52 to 13:00. In all cases, p < .05. Lastly, we see that there was a statistically significant increase across all three parent education level groups. Specifically, high school graduate or less saw an increase from 8:30 to 11:26; some college saw an increase from 8:02 to 11:30; and college graduate(s) saw an increase from 8:55 to 10:00 (p < .05 in all cases).

Second, and more importantly for our purposes, it introduces the concepts of use and exposure.

These concepts, given their fullest expression in a comprehensive survey of use of media by American children and teenagers [16], distinguish between the absolute amount of time spent on media as a share of total time available (in the sense that 15 minutes represents a quarter hour or 1/96<sup>th</sup> of a 24-hour day) and the sum of time spent with media as a total of all time segments allocated to media (30 minutes spent reading while attuned to television would sum to an hour, although only 30 minutes have elapsed). Use is defined (arbitrarily) as the share of time allocated; exposure is defined (not quite as arbitrarily) as the total of time segments devoted to media. Regardless of age group, gender, race/ethnicity, or parent education, all children saw statistically significant increases in *media exposure* in the past five+ years. When it comes to *media use*, we see that every group saw statistically significant increases save for 8-10-year-olds and Whites.

Table 2 presents the crucial data. We can first see – a considerable surprise probably to even the most loyal adherent of the stability perspective – that time allocated to traditional media over the five-year period from 1999 to 2004 was virtually unchanged. The amounts are within five minutes for three of the media (TV, print, and audio) and within 12 minutes for the fourth – videos/DVDs/movies.<sup>2</sup> The situation is quite different for newer media for this same time period.

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<sup>&</sup>lt;sup>2</sup>It is interesting that these in-home playback media increased despite their strong position at the beginning of the period. We attribute this to increased availability and better distribution.

Allocation of time to the computer increases by about 130 percent. Allocation of time to video games increases by almost 100 percent.

When we examine the time allocated to traditional and newer media from 2004 to 2009, however, we see a remarkable explosion of media popularity among the young—no doubt attributable, at least in part, to the advent of social media, wireless broadband access and the diffusion of portable digital devices.

The explanation lies in the concepts of use and exposure. Media *use* increased significantly (from 6 hours, 21 minutes to 7 hours, 38 minutes a day), an outcome that appears to tweak the long-supported view that use of the most popular medium, television, is principally a function of time available, and audience composition at the discretion of the demographic segments available at a particular time. Media *exposure* also increased significantly – in both the statistical and social senses. The 2004 figure was an impressive 8 hours, 33 minutes a day and the figure for 2009 is an eye-popping 10 hours, 45 minutes, an increase of 2 hours, 12 minutes PER DAY. Those who take pleasure in statistics of media change will appreciate the substantial increase in multitasking: from just about 24 percent to almost 30 percent of total exposure.

Between 2004 and 2009, we see statistically significant increases (p < .05 in each instance) for computer use (from 1 hour, 2 minutes to 1 hour, 29 minutes a day), video games (from 49 minutes to 1 hour, 13 minutes a day), audio media (from 1 hours, 44 minutes to 2 hours, 31 minutes) and-most interestingly-television content (from 3 hours, 51 minutes to a jaw-dropping 4 hours, 29 minutes). We say this is most interesting because while overall television content viewing is up, the amount of traditional television viewing (that is, making plans to watch TV based on the schedules of the networks providing the content) has significantly declined from 3 hours, 4 minutes to 2 hours, 39 minutes a day (the market implications for commercial television producers is fodder for an additional paper). We also note a five-minute decline among children and print media use. While modest in the number of minutes, it is a statistically significant decline (p < .05). The amount of time allocated for movie viewing has remained constant from 2004 to 2009-at 25 minutes a day.

#### Discussion

The ostensible revolutionary changes indeed took place during the time period from 1999 to 2009, with the most significant changes taking place in the last five years. However, they were accompanied by at least some degree of stability in the allocation of time to movies and print media. The explanation of multi-tasking represents a challenge for those who would prophesy about the future of the media. The demise of the 'content' of traditional media did not occur, but how that content is being delivered has changed considerably. Newer media– propelled by portable digital devices – saw extraordinary growth, as expected (though not in our wildest dreams did we imagine overall media exposure approaching 11 hours per day). This is a major change in the media landscape, but primarily just in terms of how the content is distributed—not with the material itself. In effect, the new distribution methods have allowed children to enjoy their favorite traditional media more.

Our analysis confronts three questions: the applicability of the data to the period in question; the extrapolation of the pattern to other, older age groups; and, the implications for the future.

# The period

The portrait of media consumption for the ten years between 1999 and 2009 for eight- to 18-year-olds in our view is beyond challenge (except for the boiler plate objections that can always be raised over the particular wording of questions, interview techniques, or other procedures). The samples are large, random, and nationally representative. The techniques for eliciting information were identical, thus achieving comparability (not present as often as one would like in survey data). The population sampled represents avid media consumers, as evidenced by the substantial figures for all types of media.

The revolution perspective is supported in the sense that there was some retrenchment in time use of traditional media ("live" TV viewing and print media use). The stability perspective is also somewhat supported as traditional television content increased (thanks to portable digital devices) and time allocated to movies stayed the same. The conceptual distinction is that the former requires the overturn of the older order while the latter more comfortably accepts adjustments. Revolution rests on change; stability admits adaptation.

# Older ages

The application of the data to older age groups is open to debate. Our view is that this younger group would be most open of any age group to the influence of newer media – in this case, operationalized as videogames, computer/Internet use, and use of portable digital devices – and would therefore represent a sensitive test for all age groups. These data then would over-estimate rather than underestimate effects of the newer media. (This would be particularly so in the case of videogame playing, which reaches its peak among early adolescents, and would be comparatively modest among those older [2]).

Some new media are being adopted by older Americans at a faster rate than others. For example, we know that those over the age of 35 are watching more television than ever before-and they're doing so in the traditional way and by time-shifting recorded programs. At least a part of this uptick can be attributed to the ubiquity of DVRs, which allow viewers to stockpile shows they like to watch at a different time. The idea of watching television content via digital devices, however, has yet to catch on among older Americans. While TV viewing overall has remained relatively constant from 2009-2011, at a robust 4 hours and 39 minutes per day for the typical American, we have seen an unmistakable trend in younger Americans, defined as 12-34 year-olds, getting more and more of that programming via digital distribution methods such as online viewing, viewing via smartphone, and viewing via Internet supported devices (streaming Hulu+ through Xbox 360 consoles, for example). Television ratings have remained constant because-- if there is one newer media device that has caught on, it's the DVR-- Americans over the age of 65 are watching more than ever, but they're doing so via traditional TV sets. The idea of watching their favorite shows via laptop, Netflix, Hulu+, iPod, iPad, or smartphone is, at least as of 2011, not appealing to the older segments of the population [17].

# The future

Our third concern is more troublesome. We would delight in succumbing to two predictions – that traditional media will resist incursions by newer media, and that growth of newer media will be largely at the courtesy of multi-tasking. Because of the quality of the

data, the susceptibility to technological change of the population under scrutiny, and the robust development of newer media especially during the period of 2004-2009, we would venture with considerable confidence that traditional television viewing will be resistant to those newer media that may displace viewing, but will instead allow fans of the medium additional access to content—thus leading to an increase in television content viewing across the country. We would also suggest that media multi-tasking will play a huge role in the growth of newer media. However, there are three circumstances that suggest we may have a snapshot of a passing moment rather than a precursor of a lasting pattern:

- 1. Each new cohort enters a somewhat different media environment, and we cannot be certain that those who begin their consumption at a later time will not behave differently.
- 2. The changing media environment will offer new opportunities and pleasures, and these may prove so attractive that the behavior of audiences will change dramatically.
- 3. Our paradigm may be misguided. We have chosen the obvious and important measure of time allocation. However, time may take a secondary place to the priority assigned to the various media. Time allocated to traditional media may remain substantial but the degree of attention and importance commanded by them may decline. Data over several decades make it clear that a sizable majority of viewers have assigned television the primary role in their daily time budgets despite engaging in other activities while viewing. The data reviewed here indicate that more often now those other activities are made up of use of newer media. The question is whether traditional media will retain their particular places in attention and importance.<sup>3</sup> This has huge potential consequences economically for traditional media despite its resistance to change in the 1999-2009 data by the measure of time allocation.

A big issue, at least as far as the television industry is concerned, is how Americans are accessing their television content. Advertising has historically supported television programming in the United States. Even though more than 90% of homes in America subscribe to cable/ satellite, advertising revenue still matters to both traditional broadcast networks and most cable networks [18]. This behavioral shift in how young Americans are getting their television content, then, becomes especially concerning to the industry for two reasons. First, how we measure the viewing of TV matters. Right now, those who watch TV in the traditional manner are counted one way, while those who watch in other ways (time-shifting, online, etc.) are counted a different way. The former brings in significantly more revenue than the latter. Second, the demographic groups changing their viewing behaviorsyounger Americans-are precisely those consumers most sought after by the companies that support the television industry. This means advertisers are likely to allocate future spending to the newer ways young Americans are accessing content. Even a seemingly small dip in the overall ratings of traditional TV viewing, especially in the key 18-49-year-old demographic group, can result in advertisers shifting hundreds of millions of dollars away from the popular broadcast and cable networks toward the digital distribution methods being adopted by younger Americans.

The trend is clear. In the next five years, we should expect total television exposure to remain relatively constant (or even see a slight increase), while we expect the amount of *live TV* viewing to continue to decrease, especially among younger Americans. This will have a profound effect on the television industry as we know it. While content should remain immensely popular, monetizing that content in a way that generates similar revenues to what we see today for broadcast networks, cable networks, local affiliates, and syndicators is a problem that content providers and distributors will have to solve. The irony is that the newer digital distribution methods seem to be on the path to making television content more popular than ever, while simultaneously leading to a decrease in the revenue that allows for the content to be produced in the first place. It is possible, of course, that viewer measurement techniques will become more sophisticated in the future-thus allowing for the television industry to count those digital viewers in their pitches to marketers -- but when considering the sheer volume of distribution methods available today, with the promise of additional methods on the horizon, it seems a most daunting task. Even if television executives could successfully tap the non- traditional, digital viewers, advertisers would want assurances that those viewers did not have the ability to fast forward or eliminate commercials before they'd be willing to pay rates similar to what they pay today.

The bottom line? Television content remains immensely popular and we don't see any evidence to suggest that the advent of new media will supplant television's dominance—in terms of *content*. Delivery method, however, should be of utmost concern to the television industry and we suspect that the industry will suffer catastrophic financial losses if a new way to monetize content in a digital environment is not developed.

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<sup>&</sup>lt;sup>3</sup>An analogue is the reduced attention given to magazines with the introduction of television, which was one reason why national advertisers in the United States turned away from magazines toward the newer medium.

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