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"Teens Today Don't Read Books Anymore": A Study of Differences in Interest and Comprehension Based on Reading Modalities: Part 1, Introduction and Methodology

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Are teens really not reading as much as they did in the past? Are teens reading, but in nontraditional formats that are underreported? If surveys focus on book reading, what about teens who do all their reading online or in digital formats? What about teens who listen to audiobooks? If questions are only concerned with literature, how are we counting the many people who read nonfiction, newspapers, magazines, and websites?

Today's teens may be reading just as much as teens in the past, but their methods and formats of reading are so different from the older generations now creating polls and studies that true levels of adolescent literacy leisure activities are not being captured. One way to address these questions and gain deeper understanding of new ways of reading is to study readers' preferred formats for reading. Do they prefer print books, e-books, or do they prefer to listen to audiobooks? Can they comprehend at the same level across all formats? Do they comprehend best when reading in their preferred format, or is there a format in which most teens comprehend best? Do teens report being more engaged or interested in leisure reading texts in one format over another? By knowing more about reading format choices and comprehension, self-reports of reading habits will increase validity and the questions can be tailored to reflect new developments in reading generations.

Background

Over the last few years, both popular and scholarly presses have been rife with articles about how kids and young adults, usually defined as people under 40 years of age, are not reading. As a librarian and literacy researcher, I read these articles with great concern–is it really true that kids and young adults are not reading? But as I began to look deeper and review the research as a literacy scholar, I realized that many studies were only counting traditional book and print-based reading, and sometimes were only narrative texts instead of informational texts. The widely publicized 2004 National Endowment for the Arts (NEA) study, *Reading at Risk: A Survey of Literary Reading in America*, is written up on the NEA website as "literary reading in dramatic decline."☐ With results indicating "[T]he three youngest groups saw the steepest drops . . . The rate of decline for the youngest adults, those aged 18 to 24, was 55 percent greater than that of the total adult population."☐[1]

A more recent *USA Today* story from 2007 was headlined, "One in four read no books last year"☐ and noted that those age 50 and older reported higher rates of book reading, as did college educated people and women. Readers who responded to this poll most often reported reading fiction and religious works.[2] Also in 2007, the NEA conducted a follow-up, compendium, and analysis of reading focusing on children called *To Read or Not to Read*. Results indicated that children and young adults were reading significantly less than in the past. "Less than one-

third of 13-year-olds are daily readers, a 14 percent decline from 20 years earlier. Among 17-year-olds, the percentage of non-readers doubled over a 20-year period, from nineteen percent in 1984 to nine percent in 2004. On average, Americans ages 15 to 24 spend almost two hours a day watching TV, and only seven minutes of their daily leisure time on reading."[3] If nearly all Internet surfing and social networking is text-based, how can this be true? Is this true for today's teens, or this data more reflective of teens from previous decades with less (or no) Internet access?

Reading on the Rise is the NEA's latest report on reading, released in January 2009 with great fanfare about the increase in reading, especially among adults ages 18 to 24. What the media hype failed to report was that this survey (once again) only asked about print-based reading, and whether the participants had read a work of literature (such as a novel, book of poetry, or play) in the past year. Nonfiction reading did not count, nor did non-print-based reading. Significantly, the question that did include nonfiction and other types of print-based reading, asking if participants had read any book that was not for work or school in the last year, had results that were unchanged from 2002.[4] By continuing to disregard nonfiction, digital reading, and audiobook listening, the NEA reports show only a slice of the true reading habits of today's teen readers.

In contrast to the NEA, The Pew Internet and American Life Project is one of the only national organizations to address the digital literacy activities of 21st century teens. The 2004 report, *The Internet and Daily Life*, addressed leisure readers who read online, but like most of the Pew studies, the results were self-reported, and only five percent of respondents reported doing the majority of their leisure reading online.[5] Has this changed in the last few years? Is it significantly different among teens versus the adult readers of the Pew study? One recent study on teen's digital literacy activities, *Writing, Technology, and Teens*, reported that even teens who report high levels of these literacy activities do not consider them to be "real" reading or writing.[6] This attitude is likely responsible for the underreporting of teen leisure reading levels, and it is probable that teens' dismissive attitude toward digital literacy activities stems from the attitudes and beliefs of their teachers and parents–another indication of the divide between today's teens and older adults. More support for the role of digital media in teens' lives ' can be found in the 2007 Pew report *Teens and Social Media*, which reports that 59 percent of teens surveyed regularly participate in online creation activities, from reading, writing, and sharing fan fiction, to reading and posting to blogs, to remixing online music, images, and videos.[7]

The Kaiser Family Foundation has conducted similar research to the Pew studies, which was published in the report, *Generation M: Media in the Lives of 8 to 18 Year Olds*. This report is a comprehensive overview of the many different kinds of media that are part of the daily lives of youth, from iPods to home computers with internet access (74 percent in 2005) to cell phones and TVs, and the many and rapid changes of the last few years and its effects on the lives of young people. The data in this study is drawn from a nationally representative sample of students ranging from third to twelfth grades, and, like the others, is compiled from a survey that relies on self-reporting and the questions that the researchers think to ask about.[8] For example, they did not think to ask about instant messaging, but results from the 2005 study indicate that it is one of the most popular activities among respondents.[9] A small subsection of the participants filled out media use diaries, which did allow for additional activities to be described, but not soon enough to be part of the larger survey.

Sections of the report break down media use by type, such as TV or computer use. The computer use section is illuminating, as it tracks changes from 1999 to 2004, during which the participants significantly increased time spent on games, web surfing, instant messaging, and overall computer use (from 27 minutes per day to 62 minutes per day). Missing from this section are questions about online reading and use or participation in fan

fiction. In terms of overall media use, they found that youth have a ceiling of approximately six to six and a half hours per day to devote to media, and all the different media must compete for that time. This section of the report breaks down overall media use, and here print media (reading) is included. In both 1999 and 2004, amount of time dedicated to print stayed the same, 43 minutes per day. This stability in daily reading time directly contradicts the results reported in the various NEA studies, indicating significant differences in how these results were collected and analyzed. Finally, in comparing heavy uses of media types, they found, for example, that heavy readers are also likely to be heavy TV watchers or computer users, and that heavy use of any one media type is often linked with heavy use of another media type. This matches the results of the Audio Publishers Association annual surveys on audio use, which found that print readers are more likely to be listeners than non-readers.[10]

Data Sources

Four data sources will be used to answer the research questions. Each is discussed in detail below. All participants will be 18 to 21 years of age and first-year college students from the psychology subject pool, who are required to participate in two hours of research as part of their psychology course requirements:

1. Observational quantitative data–background knowledge surveys, categorical data (sex, age, etc.), ACT scores for reading ability, ranking of formats, self-reports of reading habits, and interests.
2. Experimental data–within group and between group contrasts, comprehension scores across formats, interest, and engagement ratings.
3. Six to eight purposefully selected case studies representing print readers, digital readers, or listeners–for further exploration of format choices and effects on interest and comprehension.

Each of the three is described in detail below, along with the associated analyses and strategies.

1. Observational Quantitative Data

In order to provide baseline data for each participant and to control for additional variables in the statistical model, several types of observational quantitative data will be collected on each subject.

Prior to the start of data collection, participants will sign a form allowing for the gathering of ACT scores, which are required for all UW-Stout students. The ACT scores will be used as a measure of participants' reading ability and will either be used as a covariate to account for differences in reading ability or as a blocking variable.

To control for the effects of background knowledge in comprehension, a test of background knowledge will be administered to each participant. This test will be created by the researcher and will consist of yes/no questions asking participants about five to six key ideas associated with each of the reading selections. They will be randomly ordered and written in such a way as not to indicate the actual text.

The first part of the follow-up survey will be a ranking of the three formats: print, e-book, or audiobook. Participants will be asked to rank the formats in terms of their preferred choices for leisure reading and about their experience with each modality. Part 2 will cover all remaining observational quantitative data categories. Categorical data will include their age, sex, race, and level of education. Participants will be asked to complete a series of questions about their regular reading habits: when they read, how often they read, what types of materials they prefer reading, where they get their reading materials, what formats they prefer reading on, if they have types of reading that they only do on certain formats, and their preferred genres for leisure reading.

2. Experimental Data

The second source of data will come from an experiment of formats, interests, engagement, and comprehension. All participants will read three selections from three different texts and on each of the three formats.

All participants will be 18 to 21 years old and first-year female college students from the psychology subject pool, who are required to participate in two hours of research as part of their psychology course requirements. All participants will be female to control for the effects of gender on reading. As reading research shows that men and women have distinctly different interests in reading genres and reading habits, using both sexes at this time would introduce additional complications and potential confounding interactions in the analysis. Using first-year college students allows for the results to be generalized towards older adolescents and young adults, the two age groups singled out in the last two NEA reading studies (*Reading on the Rise* 2009; *To Read or Not to Read* 2007), and the subject of the Kaiser report.[11]

To limit ordering effects and ensure counterbalancing, each of the three reading selections will be from different subsets of the mystery genres, such legal thriller, police procedural, and contemporary. Only mysteries will be used so as to best control for the variables of interest and comprehension. Mysteries have been selected because many years of reading research across all ages has shown them to be one of the most popular (along with thrillers and romance) and a genre that is consistently popular with readers of all ages. Unlike romance or science fiction, far fewer readers report hating mysteries or thrillers, thus making them a good choice for this research. As a general rule, mysteries and thrillers also seem to be one of the most socially acceptable genres, especially when compared to romance (trash for housewives) or science fiction (only for super geeks).

Since nonfiction reading creates additional complications surrounding comprehension, background knowledge, disciplinary literacy, etc., no nonfiction reading selections will be included at this time. However, it is recognized that nonfiction reading is a significant leisure reading area, and may account for even more digital reading than print reading. Additionally, as nonfiction is read more often by males, and this study will only include females, it is not possible for it to be included at this time. It is however, along with sex, one of the most important factors to consider in any follow-up studies.

After completing each reading selection, participants will be given a brief measure to rate their interest and engagement with the text, each with five possible responses (Likert scale). Grimshaw et al. used this same type of measure in their study of children's e-book reading.[12] Next, each participant will complete a Content Reading Inventory (CRI) comprehension measure developed by the researchers.[13] It will be based solely on the selection that was just read and will provide a measure of reading comprehension for that text and format for each participant.

This cycle will be repeated two times so that each participant reads all three formats and all three texts with interest and comprehension measures after each reading.

3. Case Studies

Six to eight participants will be interviewed after the completion of prior data collection. These case studies will be used to gain a deeper understanding of print readers, electronic readers, and/or listeners, as well as for understanding their ranking of formats and how they felt about using each of the formats. The sampling for the cases will be purposive and will be exemplary cases of either print readers, e-readers, listeners or omnivorous

readers. The sampling can be described as what Patton refers to as “critical case sampling.”☐ Closely related to typical case sampling, critical case samples are “those that can make a point quite dramatically or are . . . particularly important.”☐[14] Critical case sampling has been chosen due to the power of the logical generalizations that can be made from studying critical cases. In this project, the critical cases will be those participants who are frequent, heavy readers/listeners, and can be considered representative of their reading type.

All of the case studies interviews will be semi-structured and open-ended. Each will be digitally recorded and transcribed for analysis. Analysis of the transcripts will be done in complement to the quantitative data and will look for themes and categories that represent the previously gathered data, both from the particular participant and the larger group.

The case studies will be used to gain deeper understanding of individual and representative participants in the study. They will be used in the write-up of the data to illustrate data and conclusions from the quantitative experimental and survey sources. They will also be used to frame the entire report to make it more interesting and more readable, providing touches of personal stories to the write-up.

Procedures

The data described above will be collected in a mixed methods study. This next section will describe each step of the research procedures and note the type or data being collected. Unless otherwise noted, all research will be collected in a single session in a research lab space at the University of Wisconsin-Stout, in Menomonie, WI.

Once recruited, participants will be scheduled for a 90-minute visit to the research lab. Upon arrival, consent and assent forms will be reviewed and signed. The next step will be completion of the background survey, based on the materials in each of the text selections. Before any further data is gathered, participants will be wired for the EDA collection, which will continue throughout the experiment.

Participants will be randomly assigned to one of three groups for the experiment, based on the three-by-three grid in Figure 1. They will read from a printed book, an e-book on an Amazon Kindle e-book reader, or listen to an audiobook using a Playaway audio playback device.

The Kindle is a self-contained e-book reader designed and sold by Amazon for use with its Kindle format e-books. With more than 700,000 titles available, the Kindle library is one of the largest e-book libraries in existence. The Kindle emulates the print reading experience in several ways; it is the same general size and shape of a trade paperback book (although it is significantly lighter) and the e-ink text is not backlit and thus does not cause eye strain in the way that a computer-based reader does. In many cases, the e-ink is clearer and easier to read than poorly-printed text on thin pages of many mass market paperbacks. When reading on a Kindle, readers “turn the page”☐ by clicking on a button on the side, which refreshes the e-ink to the next page. The Kindle cannot be turned on or off; it only uses battery for refreshing the page and using the built-in wireless connection, which can be used for blog or newspaper reading, as well as for purchasing additional books from Amazon. The Kindle can also play Audible.com and MP3 audiobook files, but this feature will not be used in this study.

Audiobooks will be played using Playaway audios, which are self-contained audiobooks players preloaded with a single title, and are based on MP3 audio players. They have nearly all the same features for listening and are slightly smaller than the current generation of iPod Nanos. Their self-contained nature, needing only batteries and

earphones or speakers, makes them ideal for this project. They are also rapidly becoming an important source of audiobook circulation in public libraries.

Participants will read the assigned text and format for each reading time. Before using the audiobooks and e-books, participants will be given a brief demonstration of how they work. After the first reading is completed, they will answer the interest and engagement questions. Then they will complete the Content Reading Inventory comprehension test for their assigned text. This will be repeated twice until all participants have proceeded through all three reading formats.

At this point, the participants will have completed the experimental section of the research project. Before leaving, participants will fill out the general reading questionnaire and be debriefed. They will also be asked if they can be contacted for a follow-up interview.

Part 2 of the data collection is for the case study portion of the research. It will take place sometime after the initial data collection. If possible, it will be conducted soon after experimental data collection to best obtain information about their experiences with the different formats and reading. It will take the form of a semi-structured interview. All interviews will be recorded and transcribed.

Analysis

A repeated measures ANOVA (analysis of variance) will be used for the main portion of the data analysis. The ACT scores will be used as either a covariate, in which case the analysis will be a repeated measures ANCOVA (analysis of covariance), or as a blocking variable. The independent variable will be format. The dependent variables will be comprehension, interest, and engagement. Nested models will be designed to test for spurious correlations and confounding variables to increase the likelihood that the findings are related to format, not some other variable. The ranking of formats will also be analyzed to see how it might have affected comprehension, interest, or engagement, if at all.

Correlational analyses will be also be done using the data gathered from the questionnaire, focusing on within-group and between differences, such as sex, online computer habits, or self-reported types of reading. The format rankings will also be part of the correlational analyses.

The follow-up interviews will be transcribed and analyzed to determine similarities and differences from the quantitative results. They will be used to further understand and explain the quantitative data, either as supporting cases or as negative cases.

Write-Up

The dissertation write-up, like the data collection, will be a mix of styles. It will incorporate traditional scientific reporting sections like design, methodology, and results for the reporting of the experimental data and the survey data. The experimental results, regression analyses, and the correlations from the survey data will be reported in data displays, likely charts and tables that best represent the quantitative data.

The case studies based on the follow-up interviews will be used throughout the dissertation report. They will be used in the write-up of the data to illustrate data and conclusions from the quantitative experimental and survey

sources. They will also be used to frame the entire report to make it more interesting and more readable, providing touches of personal stories to the write-up.

Because this study is about nontraditional methods of reading, like e-book reading and audiobook listening, the actual written dissertation report will also take a nontraditional format. Instead of being a lengthy, word-processed document, it will be written, edited, and disseminated as a wiki, using the free wiki software PBWiki. It is currently housed at http://readingformatchoicesdissertation.pbwiki.com. Copies of all related files, including the proposal, literature review, and theoretical framework are also hosted here for easy accessibility.

By using a wiki as the final product, it will be easily accessible on the Web, allowing for embedded HTML links to different sections of the document and to outside web-based sources, and will allow readers to experience it as a digital text. Most importantly, it will allow for embedding of the digital and audio text selections so that readers of the dissertation can see and experience the different formats of reading. This will also make it easier to provide access to additional data and information, such as the comprehension measure and raw results or the survey data, all of which can easily be housed as a page of the wiki.

While critical case sampling will be used in the data analysis for understanding the variations on reading format choices, typical case sampling may be selectively used in the write-up, as Patton recommends, "In describing a culture or program to people not familiar with the setting studied, it can be helpful to provide a qualitative profile of one or more typical cases."[15] In the write-up for this project, I will be using some of the case study data to illustrate typical e-readers and typical audiobook listeners, as these are less likely to be familiar to my audience.

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