THE EFFECTS OF SOURCE DOCUMENTS ON RECALL AND CREDIBILITY ON NEWS

By

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To fun and adventure
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News organizations are using portable document formats of source documents such as criminal complaints, grand jury reports, and vital statistic forms to accompany news stories about those documents on their websites. Employing the heuristic-systematic processing model, this study examined how those documents affected readers' recall and perception of credibility of the news. The results of an experiment that included 158 university student participants found little effect on recall or the perception of credibility. However, several factors influencing recall and perception of credibility were found. Implications and future research are discussed.
CHAPTER 1
INTRODUCTION

Recent Technology Changes to Newspaper Websites

Web 2.0 has enhanced the newspaper reading experience with videos, soundclips, extended photograph galleries and interactive elements like opinion polls. Newspapers are also using the technology to post original source documents along with the newspaper stories. The BBC changed its Web policy in 2010 to require at least one external link per story posted at its online site (Stray, 2010). This was part of an effort to increase transparency, to let the reader see what information the reporter drew from (Stray, 2010). The website editor specifically mentioned that the reader should have access to the source document whenever possible (Stray, 2010).

BBC News is not the first organization to push for providing an electronic copy of source documents to readers. Local papers like The Arctic Sounder in Alaska provided a copy of the criminal complaint with a story about the arrest of an accused bootlegger (DeMarban, 2011). The Pittsburgh Post-Gazette provided copies of court documents online after those documents were used to declare a mistrial in a public corruption case (Majors & McNulty, 2011). One of the largest online databases for source documents, DocumentCloud, saw 10 times its regular Internet traffic when newspapers linked to an electronic copy of President Barack Obama’s long-form birth certificate in May 2011 (Hickman, 2011).

More recently, the Jerry Sandusky grand jury report that spurred scandal at Penn State University infiltrated the Internet. The 23-page document was available from newspapers like USA Today and The Wall Street Journal (USA Today, 2011; Miller, Everson & Searcey, 2011). The Wall Street Journal provided a link to the report and
other supplemental material such as a statement from the state attorney general on the same webpage as a story about the scandal (Miller, Everson & Searcey, 2011) The Washington Post paired the electronic version of the court document with an editorial column about the allegations (The Washington Post, 2011), which allowed the reader to see what the journalist had to say about the report and then compare it with the actual words of the report.

Traditionally, citizens would have to search on a computer or at a government office to read the original documents journalists use as sources. In the new era, however, the source documents are provided online by news organizations. Though this practice has not been uniformly adopted or studied by researchers, it is anecdotally becoming more common.

**Past Newspaper Technology Changes**

Research on past advancements of information presentation by newspapers may help explain this phenomenon. Like the 1982 change to a graphic look at the news with the advent of USA Today, newspapers today may be increasing recall of information when they present it in a form other than the traditional inverted-pyramid format. Source documents, such as a criminal complaint, are written in narrative format (Biggs, 2004). Traditional news stories are written in inverted-pyramid format (Rich, 2010). Reading information about the Iraq election in narrative form led to stronger comprehension than reading it in inverted-pyramid form among younger readers (Zerba, 2008).

The design of a newspaper can also have an impact on a reader’s recall. Studies of recall in newspapers looked at the impact of design elements like pull quotes and infographics (Wanta & Gao, 1994; Wanta & Remy 1995). These studies found younger readers could remember specific information better when it was included in pull quotes,
graphs, and charts. Other newspaper recall studies showed readers could correctly answer more questions about content when design elements displayed information than when it was included only in a traditional news story (Griffin & Stevenson, 1992; Smith & Hajash, 1998). Displaying source documents in an electronic format may have the same effects as these early studies, carried out when newspaper graphics were still mostly text (Smith & Hajash, 1998).

**Purpose of Study**

The purpose of this study is to examine the effects on the reader of posting electronic copies of source documents alongside news stories on the websites of newspapers. This study investigates the changes in a reader's perception of credibility and ability to recall information when an electronic copy of an original source document accompanies a traditional news story. First, it reviews the research about the roles sources play in journalism as well as the role of the journalist to interpret information. Then, it examines the current research on factors involved in credibility and recall in print and online journalism.

To show the effects of reading a source document, half of the participants in an experiment read the traditional news story and the source document. The other half of participants will read only the traditional news story. Then all participants answer questions about recall and perception of credibility of the news story. The answers are compared between the two groups and analyzed for the effects of reading the original source document when consuming news. The findings and the direction of future research are discussed.
Implications of Research

Motives and effects of posting source documents to accompany news stories on the websites of news organizations has not been examined in research. However, research on past newspaper techniques supports that this new practice will improve credibility and recall of the news content because readers have access to multiple story forms, repeated information, and cues to indicate the validity of the information.

Sources, named and anonymous, are what fuel journalism. While people are the vast majority of sources in newspapers (Kasoma & Maier, 2005), more than a third of newspaper stories use non-human sources like government documents or information from the Internet, a content analysis showed (Kasoma & Maier, 2005). Documents might be the basis of an investigative piece (Berry, 2009), or they might provide the details for a police or crime story (Chermak, 1995).

Editors have used the word “transparency” to anecdotally explain the purpose of posting source documents to a news website (Stray, 2010). When posting source documents to aid in transparency, newspapers may also be adding to their credibility. Credibility studies are categorized into medium credibility (Kiousis, 2001) and publication credibility (Armstrong & Collins, 2009). If a particular message is believed as true and valid, that particular message is credible (Wilson & Sherrell, 1993). Anonymous sources have been shown to hurt credibility (Sternadori & Thorson, 2001), but making source documents available for examination may increase credibility.

The extent that a reader pays attention to the source of the information rather than the content of the information is explained by the heuristic-systematic information processing model. Systematic thinking is defined as careful scrutiny of the content of the message (Trumbo, 1999). Heuristic thinking is defined as using cues to come to a
quick decision about the message (Trumbo, 1999). Systematic thinking is predicted by high involvement in the message, while low involvement predicts heuristic thinking (Trumbo, 1999). When this theoretical framework is applied to this study, it predicts that those who are not interested in the news story will use the source of the information to judge the story’s credibility. Those same people who are not systematically evaluating the content of the message will resort to peripheral cues to judge the credibility of the message. The news story example used in this research carries the generic by-line “Staff report.” The source document is labeled with the name of federal agencies and stamped by a federal magistrate among other identifying characteristics.

The results of this research could be helpful to news organizations that maintain websites and consider posting source documents to accompany news stories. Providing original source documents is a convenient and new tool to reinforce the information provided in news stories. If recall is increased by reading source documents, media could institutionalize the practice to help the reader further understand the subject of the report. If credibility is increased by reading source documents, newspapers could set company policies to demonstrate to readers the veracity of the information in a news story. Improved recall and credibility can enhance the ability of journalism to act as a watchdog. Providing source documents may be one way newspapers can take advantage of emerging technology to deliver the news – and the documents that create the news. While this experiment will employ only one particular type of source document – a criminal complaint – it could spark interest in the effects of other types of source documents, like various court records, vital statistics forms, or government agency budgets.
Additionally, this research could benefit the scholarship on the effects of source documents on newspaper readers. Because providing source documents to the reader was not as easy or convenient before recent technology advances, no known research has looked at the effects of source documents on the reader. If recall and credibility are increased when readers have access to source documents, this study could expand the knowledge of those variables.
Defining the Role of Sources in Journalism

Sources drive journalism. News sources are central to the study of journalism because sources give voice to the flow of ideas and information that preserve capitalism and democracy (Manning, 2001). Sources are central to story selection and also influence story production (Gans, 1979). Human sources are often the starting point for a story because they make the story credible and readable (Rich, 2010). The individual journalist has the most power in deciding who to use as a source, though the news organization may exert some pressure in source selection (Powers & Fico, 1994). These people might be public relations professionals, leaders of organizations, or eye witnesses (Rich, 2010).

Some journalists use the same source repeatedly (Gans, 1979). As a journalist and a source develop a relationship, the source will use information to get access to the journalist and the power of the press (Gans, 1979). As the relationship develops, the source will better understand what the journalist is looking for and how to fashion information in a way that is more likely to make it into the news (Manning, 2001). The journalist will start to lean on reliable sources because of the pressures of deadline (Manning, 2001).

Interviews with Israeli journalists show journalists rate 86 percent of the sources used in publication as either credible or highly credible (Reich, 2011). On the opposite end of the spectrum, the journalists ranked 2 percent of sources used on a daily basis as not very credible or not at all credible (Reich, 2011).
People are the primary source of information for news stories, accounting for 90 percent of named news sources (Kasoma & Maier, 2005). A content analysis of 900 articles in nine daily U.S. newspapers found the average number of sources per story was 4.1, and the average number of human sources was 3.3 (Kasoma & Maier, 2005). Thirty-five percent of news stories used non-human sources like government documents or the Internet (Kasoma & Maier, 2005).

Stories that rely more on documents and public records can take longer to investigate and interpret than the stories based on human sources. What ended in a Pulitzer-Prize winning series on atrocities committed by an Army unit known as Tiger Force began with five weeks of combing through documents hoping that there was an untold story in the pages (Berry, 2009). Documents, indeed, can be a powerful basis for a story. When journalists uncovered the 2002 Olympic bribery scandal at Salt Lake City, two documents – a letter and an IRS form – fueled the fire (Campbell, 2007). Because records and documents can add credibility to a story, journalism students are taught to ask for supporting documents during an interview, and to use courthouses and other government offices as valuable resources (Nash, 1984). In newspaper crime stories, 4.1 percent of sources are police and court documents (Chermak, 1995).

When writing about crime, several police documents can help a reporter including a blotter, incident report, and booking log (Police Sources, 2008). A common source for writing about criminal charges is the criminal complaint. Federal Rules of Criminal Procedure define the complaint as a written statement detailing the essential facts in the offenses charged and stipulates that the statements must be sworn to under oath (Rule 3). Though the process varies from state to state, the state courts use much of the
same procedure, as being arrested and held without “probable cause” is prevented by the U.S. Constitution. The availability of those records also varies by state (Police Sources, 2008). Because of the variation between states, this research will focus on a federal criminal complaint.

**Role of Journalism in Interpreting Information**

When online media organization Wikileaks received thousands of politically charged international cables in 2010, site founder Julian Assange did not post all the raw, unorganized data online (Goldsborough, 2010). Instead, the organization’s leadership partnered with traditional newspapers in the United Kingdom and United States to allow these professionals access to the information. Only after journalists analyzed, interpreted and redacted specific cables were those messages published to Wikileaks’ website (Benkler, 2011). Without the analysis of journalists to simplify the messages, the data would have attracted only those with the time and intense curiosity to sift through information looking for the intriguing bits (Keenan, 2010). The public has shown it loves to comment on what others have unearthed, connected or investigated. But, someone has to do the unearthing, connecting and investigating, and often the public leaves that work to the media personnel (Goldsborough, 2010).

One of the primary and original roles of the media has been as a government watchdog. The media have the obligation to play ombudsman for the taxpayers, and occasionally is pressed into blowing the whistle on corruption. Sometimes this watchdog role means reporting on a school board budget meeting, and other times it involves examining documents at the state Capitol, trying to interpret numbers and make connections. Journalists might call this a “mission to explain” or “opening a window unto the world” (Manning, 2001).
Both journalists and readers rate interpreting information high on the list of roles the media plays in society and democracy (Burgoon, Bernstein & Burgoon, 1983; Burgoon, & Burgoon, 1981; Chung, 2009). In a content analysis of 10 national news organizations, Tremayne (2004) found that a framework for the facts was needed to make the journalism meaningful to the reader. A content analysis of Web news stories found stories about international issues contained more hyperlinks than stories about local issues (Tremayne, 2004). The author surmised this was because more background information was needed to put international stories in context than was needed for local stories. Reporters put facts in context so readers can understand the stories and come to their own conclusions. The context and background reporters provide help preserve democracy, he concluded.

So vital is the interpretive aspect of journalism that Zelizer (1993) argued from an anthropological perspective that journalism should not be called a profession, but rather an interpretive community. This community, the author said, is united by its shared perceptions of reality. Using both the Watergate stories and the reporting on McCarthyism, the author explained the interpretive process happens twice for journalists: first as they are experiencing the event and second as they write about it. The results of this double interpretation become essential in society’s construct of truth about the event (Zelizer, 1993).

Beirne (1926) remarked that “the whole machinery of an editorial staff” is designed to put the news into clear and understandable language. Burgoon, Burgoon and Wilkinson (1981) found that fewer words per sentence and a lower reading level of the
text both increased trust of several news stories among a group of undergraduate students.

**Inverted pyramid**

The journalist’s interpretation is not always replicated exactly to readers. The presentation of the interpretation can change the reader’s perception of information. When seeking news online, a person’s first mental task is to read the text (Wise, Bolls, Myers & Sternadori, 2009). Then, the typical person will move onto supplemental materials like videos or sound clips. Wise, Bolls, Myers and Sternadori (2009) found that changing the structure of the news story from inverted pyramid to narrative changed the understanding of an accompanying news video. When the story was written in narrative format, the participants recognized more details given in the video than they did when the story was written in inverted-pyramid format.

The inverted pyramid format is structure used for writing hard news that places the most important information and impact at the beginning of the story and then works through the details in descending order of importance. It is taught to student journalists as a fundamental to journalistic writing (Rich, 2010). There are three major theories on the origin of the inverted pyramid: unreliable telegraph lines of the American Civil War, a shift in the educational paradigm, and as a time-saving and cost-saving measure (Pottker, 2003).

A content analysis of two New York newspapers during the 19th and 20th centuries showed that both papers had a jump in the number of stories written in inverted pyramid style between 1855 and 1920. During that time period, the percentage of inverted-pyramid stories at the *New York Herald* increased from 6.1 to 39 percent of stories. At
the *New York Times*, the percentage rose from 4.6 percent in 1875 to 14.5 percent in 1895 (Pottker, 2003).

**Narrative**

The narrative format describes the details of a story with a beginning, middle and end. It is used in many types of non-fiction writing, but not used often in journalism except in features. Though the inverted-pyramid style has become pervasive, it may not be the best format for a target group of online readers: the youth. Zerba (2008) found a group of college students recalled more details of a story about Iraq and showed more interest in the story when it was presented in narrative format than in inverted pyramid format. Narrative storytelling in the media, the author concluded, could increase the comprehension, interest and enjoyment among younger readers. Knobloch, Patzig, Mende and Hastall (2004) found a general audience reported more reading enjoyment for story structures typically used in entertainment, regardless the content. The authors concluded the inverted pyramid format fails to maximize pleasure for readers. Taking it a step further, Boyer (1976) attacked the inverted pyramid as irrational to both the reader and the writer.

The central portion of a criminal complaint is termed the “narrative” by law enforcement agents. In this section, standard practice of the investigating official is to write a detailed, chronological first-person account of the events that led to filling charges (Biggs, 1994). Narrative journalism is written with a different purpose, but the writing styles share similarities. Narrative journalism is told in plot form, which may be chronological (Zerba, 2008). Though it is not usually written in first-person, narrative journalism is often written through the perspective of a particular character (Zerba, 2008). Also, small details are emphasized in narrative journalism more than in inverted-
pyramid style (Zerba, 2008). When presented both a traditional news story written in inverted pyramid and a criminal complaint written in narrative format, the reader reaps the benefits of both writing styles. While the purpose is different, this paper suggests that the effects may be similar based in part on the writing styles of the narrative and inverted pyramid.

Theoretical Framework

In addition to the benefits of a different writing style, a criminal complaint may also benefit the reader looking to make a quick judgment about the credibility of the story, according to one model of information processing (Mondak, 1990). The heuristic-systematic information processing model is one of several models used in persuasive message theory to describe and predict what portions of a message a receiver will pay attention to and how the message will be evaluated. This model predicts that not all online newspaper readers will scrutinize the news and the source of news on the same level. HSM predicts as the interest of the reader increases, so will the scrutiny the reader gives the news (Mondak, 1990). The importance of source credibility and the interest of the reader to further investigate a content of a news story will likely be influenced by his or her interest or engagement in the story.

Interest in reading material is positively correlated with engagement in the reading (Flowerday, Schraw, & Stevens, 2004). Interest affects the attention paid to the material and the learning strategy used to review the material (Shraw & Lehman, 2001). Interest can be either personal (long-term) or situational (short-term), but both affect deep learning, like understanding the themes and symbolism of a text (Schraw & Lehman, 2001). “Shallow learning,” which is the term used by the author in reference to the type of learning needed to answer multiple-choice questions about facts, is not
influenced by interest (Flowerday, Shraw & Stevens, 2004). There is no evidence that there is a negative relationship between interest in and basic recall (Shraw & Lehman, 2001). There is a positive relationship between interest and engagement. Interest effects the emotion invested in the activity, which is an emotional engagement (Schraw & Lehman, 2001).

Chaiken (1980) found engagement or involvement dictated how information is processed. Chaiken studied two methods of processing information – heuristic and systematic. A later study found similar results for the types of information processing on the credibility of the message. Chaiken and Maheswaran (1994) studied how participants evaluated messages based on the importance of the task at hand. When the task was categorized as high importance and the message content was specific, participants scrutinized the central message systematically. When the task importance was low and the message content was ambiguous, participants used heuristic source credibility cues such as likeability to judge the message. Participants combined elements of both methods of information processing when the importance of the task was high but the message content was ambiguous (Chaiken & Maheswaran, 1994).

In experiments, Chaiken (1980) found message receivers not involved or engaged in the message are more likely to pay attention to peripheral clues about the reliability of the message. On the other hand, those highly involved in the message were more likely to scrutinize the central message for credibility (Chaiken, 1980). Research observed that high-stakes participants were more likely to pay attention to the content of a message while low-stakes participants were more likely to pay attention to the demeanor of the person delivering the message (Chaiken, 1980).
Mondak (1990) found the HSM model predicted the persuasive ability of messages from the Supreme Court. Though most citizens do not spend time to investigating decisions by the high court, they are likely to base their opinion on the decisions. Mondak (1990) found that decisions made by the Supreme Court were viewed more favorably than fully-explained decisions made by less credible sources. He explained that participants had low-involvement in the issue, so they evaluated the message based on the heuristic cue of source credibility.

More recent research found that source credibility plays multiple roles in high-elaboration models. Tormala, Brinol and Petty (2007) determined that perception of the message was changed depending on when in the message the source was revealed. When the source of the message was given after the message, it had a stronger effect on the participant than when the source was given before the message (Tormala, Brinol & Petty, 2007).

This model predicts that the when news readers have a high interest or involvement in a news story, they will use the systematic information process and pay more attention to the content of the message. When news readers have a low level of involvement in the story, however, they will make a quicker judgment about the story based on heuristic cues, particularly source credibility. This model can be extended to make predictions about the effects of providing the original source information of a news story on recall and credibility. Those who rate a high interest in a news story should read more carefully the content of the news story and therefore would have a higher recall of the details than someone who is not interested in the story. Those who indicate a low interest in news story would pay more attention to the source of the information. If
the message source is an official source, the message would have higher perceived credibility among those with a low interest than a high interest.

**Factors Involved in Recall**

The factors that influence recall of news stories are varied and not always controlled by the journalist. In a survey, Robinson and Levy (1986) found education to be the largest predictor of comprehension. The authors also found interpersonal communication played a large roll. Even so, there are tactics news organizations can take to improve the understanding ability to recall messages. Some are in the hands of the reporter. For instance, Callison, Gibson and Zillmann (2009) found that the way math ratios were written was far more influential on recall than the reader’s math ability. Page designers can add more pull quotes to improve recall (Wanta & Gao, 1994).

In an experiment, Wolf and Grotta (1985) paired stories with photographs. They found that the photo was cited as the biggest reason for reading the story. They also found that when stories are paired with photographs, the participants had better recall of details in the stories. Pipps, Walter, Endres and Tabatcher (2009) found that the impact of visual elements could differ by age. In their experiment, they found students had better recall of news stories after reading text. Conversely, participants aged 21 and older had better recall after they saw photographs and videos, according to their study.

Wanta & Gao (1994) found the presentation of print news changed the perception of the content. Using a variety of newspaper front pages, they found graphics and order made a difference in recall and attention to information in a group of college students. The authors concluded newspapers should include more pull quotes, more photos and less text to improve the reader’s experience. Pull-out quotes improved recall more than information graphics (Wanta & Remy, 1995). Likewise, Griffin and Stevenson (1992)
found when a background informational sidebar with a map was included with a news story on Lithuania, participants could answer correctly a mean of 7.88 of 10 questions on a multiple-choice test. With text alone, participants answered correctly a mean of 6.9 questions. Coleman and Thorson (2002) found that in two of three cases reader knowledge increased when public health information was provided in graphical format rather than text format.

While a criminal complaint, written by a police officer in narrative on a standardized form, is not entirely pictorial, many of these early studies included text-as-graphic in their definitions and results. With the appearance of *USA Today* on front stoops in the 1980s, criticism and research sprung forth focusing on informational graphics. Smith and Hajash (1988) analyzed 30 newspapers in 1986 and found one graphic for every 17.48 pages. Comparatively, *USA Today* was at the time publishing 1.3 graphics per page. The graphics were most often associated with business and economic stories, though weather was another dominating subject area for informational graphics.

In these early days, infographics included charts, tables and diagrams (Smith & Hajash, 1988). Maps were the most prominent type of graphic. In an experiment by Utt and Pasternack (1993), college students were given several story packages from *USA Today* and asked to look over the pages as they normally would. Then they were asked questions about the content. The authors found the location of graphics was the primary predictor of what story was read first. While the graphic could draw the reader, the authors also found a quarter of participants misunderstood the information contained in the graphic. Ramaprasad (1991) also found informational graphics could confuse the
reader. In an experiment with a news story and a diagram explaining earthquakes, the author found in general the graphic did not increase recall and led to misinformation. The author concluded with mixed feelings on infographics. Because they draw the reader’s attention and because the exchange of information can only happen after attention is gained, informational graphics can be beneficial. But, poorly written graphics could also add to misunderstanding.

Because a link to an electronic copy of a criminal complaint may draw the reader’s attention, present the information in a narrative that repeats much of the information contained in the traditional news story, and display the information in a graphic on a standardized form, recall of information will increase when the reader reads both the traditional news story and the source document.

H1: Exposure to a copy of a court document and a traditional news story about that document will increase the reader’s recall of the story when compared to being exposed to a news story alone.

RQ1: What factors influence recall?

Factors Involved in Credibility of News

While the credibility of print journalism has long been the subject of research, more recently those principles are applied to journalism presented online. Credibility research is separated into specific news story credibility (Meyer, 1988; Armstrong & Collins, 2009), source credibility (Whitehouse, White & Andsager, 1991), and message source (Sundar & Nass, 2001). This study will draw on the benefits of the source credibility, a sworn statement from a police officer, as well as message credibility created on a news organization’s website.
A message is credible if the receiver believes it to be true and valid (Wilson & Sherrell, 1993). Expertise, goodwill and reliability make up the majority of source credibility, while likeability and dynamism are also factors (Wilson & Sherrell, 1993). In their quantitative meta-analysis of previous studies, Wilson and Sherrell (1993) found expertise to be the most effective factor in source credibility. Other factors include being fair, unbiased, and accurate (Meyer, 1988). Because of the expectation that experts will have more valid points than lay people, use of experts in a news story can bias a message receiver’s thoughts about the credibility of the message (Tormala, Brinol & Perry, 2007). Additionally, Sundar and Nass (2001) posited that the technology that delivers the news (i.e. the Internet) is considered a source itself by some readers. Readers may perceive source documents as more credible because the documents are authored by experts in the field instead of a journalist.

While anonymous sources hurt the credibility of the news story (Sternadori & Thorson, 2001), including the source in its entirety is at the other end of the transparency scale. Reading the source document after the news story could have a larger effect on credibility than reading it before. Tormala, Brinol and Perry (2007) found providing source information after the message was more effective than providing it before the message.

This study examines whether including a criminal affidavit in narrative form as an accompaniment to an inverted-pyramid news story could increase the readability and improve credibility.
H2: Exposure to a copy of a court document and a traditional news story about that document will increase the reader’s perception of credibility of the story when compared to being exposed to a news story alone.

RQ2: What factors influence credibility?
Figure 2-1. Proposed model of influences on recall and credibility
Experimental Design

A post-test with control experimental design was used to test these hypotheses and research questions. Participants in the treatment condition read a traditional news story about a crime and then the original source document, a criminal complaint. Participants in the control condition read only the traditional news story. At the end of the reading period, both groups answered questions to assess their recall of the news story and their perception of credibility of the news story. The answers to the questions were analyzed to measure the differences between the control and treatment conditions.

Based on the experiment design, exposure to the source document was the primary independent variable. Other independent variables measured included time spent reading the material, story interest and news interest. Recall and perception of credibility are the primary dependent variables. Variable construction will be discussed later in Chapter 4.

This post-test only design is limited because it cannot control for all outside factors. While the questionnaire inquired about interest in the story and self-reported prior knowledge about the case, it did not measure prior knowledge about the case or similar cases. While the procedure measures the time the reader spends with the news story and the source document, it cannot account for individual learning differences. This study did not measure the change in the reader’s ability to recall information or the perceived credibility of the news story.
The News Story and the Source Document

The news article used in this experiment was published October 6, 2010, on the website of *The Boston Globe* by staff writer Hiawatha Bray. “Akamai employee charged with trying to sell secrets to a foreign government” was written in the days after American citizen and technology company employee Elliot Doxer was charged by the FBI with wire fraud. The 360-word story is written in traditional inverted pyramid news style. See Appendix A. It begins with a hard news lead, delayed identification, and then gives details in time sequential order. Information and quotations are taken directly from the federal complaint and are attributed accordingly. It was published in the Business Briefs section of *The Boston Globe*’s website and does not contain any notations that it was changed since its original publication. This story was chosen because the date (October 2010) and the location (Massachusetts) reduced the likelihood that the participants will have previous knowledge of the case and its details. The byline and masthead were not included. Instead, a generic “Staff Report” was used as a byline. The text of the story was placed on an electronic document designed to look like the webpage of an aggregate news website. The only change to the content of the story was to indicate the cities mentioned were in Massachusetts.

Documents can be converted to an electronic format and made available to online readers. Adobe® Systems created portable document file, or PDF, as a file format that captures and replicates the formatting of a document (Noack, 2001). The software needed to read PDFs is free, and newspapers began using this file format as a way to make an online copy of newspapers available with the same look as the print version (Noack, 2001). Some newspapers use this technology to sell subscriptions of the newspaper online instead of charging on a pay-per-view basis (Beleyen & Van Hove,
2010). Other newspapers have made PDFs of non-newspaper documents available to supplement online news coverage.

The original PDF of the complaint is a 22-page file available directly from the U.S. Courts through Public Access to Court Electronic Records (PACER). It was also published in its entirety by many news organizations. The document has numerous clues to its origin, from the legal headings to the stamp by the federal magistrate judge who signed the arrest warrant.

The document begins with an affidavit by the FBI special agent who investigated the case, James A. Cromer that details his credentials and jurisdiction. It continues with a narrative of the evidence collected and investigation into the defendant. This narrative shares characteristics with narrative journalism because it is told through the perspective of the investigating agent and has a beginning, middle and conclusion.

The final pages include a criminal case cover sheet that lists vital statistics and basic information about the defendant and the location of the alleged crime, a list of charges (one count of wire fraud), and a signed arrest warrant. The warrant does not indicate it was returned, meaning the warrant does not record that the accused was apprehended even though the news story does indicate arrested and held without bail.

The PDF of the criminal complaint was reformatted and condensed to three pages. This was done by removing the double-spaced formatting, removing extraneous pages like the cover page, arrest warrant and physical description page. The narrative written by the investigating officer was not significantly altered in content because prior research showed that the narrative might be instrumental in influencing the reader’s recall (Zerba, 2008). Also left in the PDF were the stamps by courts and signatures by
the investigating agent because those elements may have been clues used in the
heuristic-systematic information processing to determine the credibility of the document.
See Appendix A.

Participants

Participants for this experiment were recruited from a general elective course
(RTV 3405 “TV and American Society”) offered within the College of Journalism and
Communications at the University of Florida. This class was chosen because it provides
a large pool of students from a variety of majors. Volunteers were invited to participate
in the experiment by email in exchange for extra credit in the course. The experiment
was available from Nov. 29 to Dec. 9, 2011.

At that time, 164 participants had completed the experiment. The results of three
participants were removed because of missing data. An additional three surveys were
removed because the participant indicated he or she had prior knowledge or was
unsure if he or she had prior knowledge. The answers of 158 participants were
analyzed in this study. Participants ranged in age from 17 to 26, and the median age
was 20. Of those participants, 71 percent were female. The majority of the participants
were white (64 percent). Ten percent of the participants were black, and 17 percent
indicated they were of Hispanic ethnicity. Almost all participants (96 percent) indicated
they were American citizens. Students from 11 of the university’s 16 colleges were
represented. With the exception of one graduate student, the participants were 10
percent freshmen, 21 percent sophomores, 42 percent juniors, and 26 percent seniors.

Procedure

Participants were sent an email that included a link to the experiment, which they
could complete on any computer with Internet access. The link led participants to the
informed consent agreement, which participants could read and print. Once participants agreed to the informed consent, they were randomly assigned to either the treatment or the control condition by the experiment software without the participant’s knowledge.

Next, all participants were presented with a screen modeled to look like a generic news aggregations website and instructed to read a traditional news story about an employee of a technology company accused of wire fraud. On the left side of the story was a link that read “Click here to read PDF of the criminal complaint.” Clicking on the link did not lead the participant anywhere, but the click was recorded. This was available to all participants. See Appendix A. Participants were instructed to read through the news story as they would normally read through an article on a newspaper website. The time the participant spent on this page of the survey was recorded by the experiment software. Participants in the treatment condition were additionally presented the document used as a source for the wire fraud story, a federal criminal complaint filed against the accused.

Participants were instructed to read though the article and documents as if they were reading it on a news website, and time spent on each of the three pages was recorded by the experiment software. When a participant finished with the reading, he or she was asked to complete a questionnaire that captures demographic information, and tests recall, perceived credibility, and interest in the news article. The experiment software prevented participants from using Internet navigation to see prior screens once the participant advanced to the next question. On parts of the experiment that had questions, the experiment software also required participants to give an answer before advancing to the next part of the experiment.
Of the 158 participants used in analysis, 81 were assigned the treatment condition and 77 were assigned to the control condition. All participants spent an average of 177 seconds (2 minutes 57 seconds) reading the one-page news story. Participants in the treatment condition spent an average of 394 seconds (6 minutes 34 seconds) reading the three-page complaint.

**Measures**

The questionnaire administered to all participants includes four sections: recall, credibility, interest and demographics. See Appendix B. Participants were first asked to summarize the news story in a few sentences. Next, recall questions were administered to reduce the elapsed time between reading the news story and answering the questions.

The seven multiple-choice questions asked the participant to recall details from the content of the news story. The answers to all the recall questions are all in the news story. Reading the original source document was not necessary to answer any of the questions.

The questionnaire then asked eight questions on credibility on a scale of 1 to 7. These questions measure elements of credibility of the news story (Armstrong & Collins, 2009; Arpan, 2009; Kiousis, 2001; Gaziano & McGrath, 1986). The results of the questions were compared between the two groups to determine if those who read the source document perceived the news story to be more credible than those who read the news story alone.

The participants were asked nine questions about their interest in news, news stories involving the themes of the news story, and this particular news story. These questions, answered on a scale of 1 to 7, were used to determine if recall and perceived
credibility are related to interest in the news story. Wanta & Gao (1994) found that interest in the story increased recall in younger newspaper readers. This set of questions was used to determine how interest affected recall and observe any instance of heuristic-systematic processing.

Finally, the questionnaire asked eight demographic questions. Demographics collected included age, gender, major, race/ethnicity, and status as an American citizen. Participants were asked to provide their university identification username and number for the purposes of awarding extra credit. However, this information was separated from the responses so there was no link between individual responses and identifying information.

The measures were pre-tested on a mixture of graduate students at the university and adults not affiliated with the university. The results of the pre-test participants were not included in the analysis, and none of those who took the pre-test also participated in the experiment.
CHAPTER 4
RESULTS

Using a post-test experimental design, this study examined the effects of a source document on recall and credibility of a news story. Participants were randomly assigned to either the control condition and read only the news story or the treatment condition and read the news story and the source document.

A link in the source document indicating it led to a PDF of the source document was available to all participants, though that link was not functioning during this experiment. While participants were not instructed to click the link, 7 percent of participants did click that text.

Open-ended Summaries

All participants were asked to summarize what they had read in an open-ended question. This question was mainly used as a manipulation check. The control group was asked this question immediately after it finished reading the news story. The treatment group was asked this question immediately after it finished reading the final page of the criminal complaint.

Responses from both groups indicate participants read the story. The answers from the control group ranged from a vague single sentence to detailed summaries. Many included specific names and numbers. For example:

Doxer was leaving ‘sensitive information’ from his company in Boston, Massachusetts (siq.) for ‘Country X’ which notified the US government that he was offering to do this. So the US set up a ‘dead drop’ for him to leave the information containing contact information for financial clients, saying he was doing to help his homeland, he is a Jewish-American. He does not have a lawyer for his court case and he is being charged up to $250,000 and up to 20 years in jail for ‘wire fraud.’ (Participant 30, control condition.)
Some participants were blunt with their responses:

I only skimmed over it because it did not pique my interest and the directions said to read it like you normally would. I do remember that there was sensitive information that was being given to other individuals over and extensive period of time. The suspect or person visited the dead drop over 60 times. (Participant 100, control condition.)

Participants in the treatment condition showed a similar range of generalized to specific summaries of the stories. While many of their descriptions continued to focus on the details included in the news story, several summaries included details that were only contained in the criminal complaint. Nine of the 81 responses from those in the treatment group referenced a specific portion of the complaint talking about the mother of the defendant’s child.

[Doxer] also wrote about his child’s mother, who lived abroad: ‘His mother is a terrible human being and caused me a tremendous suffering. Not enough bad things can happen to her if you know what I mean.’ (Criminal complaint).

This detail, which was not included in the news story, was repeated almost as an aside in several summaries.

A man named Doxer was accused of committing a crime. He claims he did nothing wrong but the authorities, and the criminal report, say differently. His mother is also a ‘terrible person.’ (Participant 66, treatment condition).

Generally, the summaries of both those in the control and treatment condition reflect that the participants read the information presented to them. The summaries include details of the readings that participants were able to recall without the prompting of multiple-choice options.
Variable Construction

Time

The news story was shown on one screen. The time participant was instructed to read the news story and continue to the next screen when finished. The time the participant spent on the story with the news story was recorded. The mean length of time spent on the news story by all participants was 2 minutes 57 seconds (S.D. = 270 seconds).

The criminal complaint was distributed across three pages. Participants in the treatment condition saw only one page of the complaint at a time. They were instructed to continue to the next page when they finished. The time spent on each page was recorded. The time reading each page was summed to get the cumulative time spent reading the criminal complaint. Of those who were in the treatment group, the cumulative mean time spent reading the complaint was 394 seconds (6 minutes 34 seconds) (S.D. = 647 seconds). The range was from 7 seconds to 3,958 seconds (1 hour, 5 minutes, 58 seconds).

A variable was created that combined the time spent on the news story and the time spent on the criminal complaint for all participants. The mean combined time for all participants was 6 minutes 19 seconds (S.D. = 620 seconds).

News interest

All participants were asked to self-report their opinions on and interest in general news and this specific story. For these questions, participants were asked to rate their answers on a scale of 1 to 7, with 1 being low and 7 being high. These questions were created with the topics and categories of news related to this story.
There were two batteries of questions about interest in news. The news interest battery included six questions about news and types of news. Participants were asked to rate their answers on a scale of 1 to 7, with 1 being not at all and 7 being a great deal. Those questions included:

The Cronbach’s Alpha for these six items is 0.91. This indicates high internal consistency (George & Mallery, 2003). The cumulative mean was 26.53 of a possible 42 (S.D.=7.7).

**Story interest**

The story interest set of questions focused on this particular news story. Participants were asked to rate their answers on a scale of 1 to 7, with 1 being not at all and 7 being a great deal.

The Cronbach’s Alpha for these six items is 0.936. This indicates high internal consistency (George & Mallery, 2003). The cumulative mean was 23.68 of a possible 42 (S.D.= 8.86).

**Recall Questions**

Recall was examined using seven multiple-choice questions that could be answered using the news story alone. While some questions were more basic and others were more detailed, each correct answer was weighted equally. The mean number of questions answered correctly was compared between the two groups. The information included in the news story was repeated in the complaint. The most frequent answer for each of the recall questions was the correct answer. The mean number of recall questions answered correctly was 5.28 (S.D.=1.73). Twenty-seven percent of participants answered all seven questions correctly. Almost all participants answered at
least half questions correctly. Fewer than 8 percent of participants answered two or fewer questions correctly.

To test the H1 positing that those who were exposed to the news story and the source document would recall the details of the story more than those who saw the news story alone, an independent sample T-test of means was used. Participants were awarded one point for a correct answer and zero points for an incorrect answer. The average number of questions answered correctly was compared between the group that was exposed to the source document (M=5.51) and the group that saw the only the news story (M=5.05). There was no statistical difference between the means of the two groups. The proportion of correct answers was calculated for each participant. There was no statistical difference between the proportion correct in the control group (M=0.7217, S.D.=0.26412) and the treatment group (M=0.7866, SD=0.22714). The exposure to a source document did not increase recall of the news story. See Table 3-3.

The number of “don’t know” and “none of the above” responses on recall questions was totaled for each participant. There was marginal statistical significance (p<.10) to show that the participants in the control group (M=1.1688, SD=1.31922) were more likely to answer either “none of the above” or “don’t know” to the recall questions than those in the treatment group (M=0.8519, SD=1.05013).

When those who answered all recall questions incorrectly were removed from the analysis, there was marginal statistical significant difference (p<.10) in the proportion of recall questions answered correctly between the control (N=75) and treatment (N=79) groups. In this analysis, those in the treatment group (M=0.8065, SD=0.19144) answered more questions correctly than the control group (M=0.7410, SD=0.23915).
The treatment group was more likely to answer two particular recall questions correctly. Participants were asked the name of the agency in charge of the criminal investigation. Eighty-four percent of treatment group correctly answered that question, while 58 percent of the control group got it right (p<.001). Participants in the control group were also more likely to answer “don’t know” to that question than the treatment group (p<.10). Similarly, participants were asked what the subject of the story left at drop-off location. Eighty-five percent of treatment participants answered that correctly, while 73 percent of the control group answered it correctly (p<.10). See Table 3-5 for a comparison of means of these two questions. In the remaining five recall questions, there was no correlation between exposure to the source document and a correct answer.

Based on these results, there was not enough evidence to support H1: Exposure to a copy of a court document and a traditional news story about that document will increase the reader’s recall of the story when compared to being exposed to a news story alone.

Factors Influencing Recall

RQ1: What factors influence news reader recall?

A MANOVA was created to analyze the predictors of recall. To create this model, variables were split at the mean for all participants and assigned to high and low groups. For news interest, variables were split into the high group (N=71) and low group (N=78). For story interest, participants into a high group (N=82) and low group (N=67). For combined time, participants were split into a high group (N=72) and a low group (N=77). For credibility, participants were split into a high group (N=74) and a low group
(N=75). Participants were also separated into two groups by race/ethnicity. The first group was those who identified themselves as white (N=95) and all others (N=54).

High news interest was marginally significant with a higher number of recall questions answered correctly (p<.10). High story interest was a statistically significant influence in answering more recall questions answered correctly (p<.00). Those who spent a longer than average time reading the information also answered more recall questions correctly (p<.00).

Using the data collected to create a MANOVA predicting the proportion of recall questions participants answered correctly, several main effects and one interaction are statistically significant. Main effects included story interest and time. Those who had high story interest answered more recall questions correctly (p<.01). Those who spent more than the mean time with the information also answered more recall questions correctly (p<.05). Race emerged as a marginally significant factor in predicting recall. Whites answered more recall questions correctly than non-whites (p<.10). See Table 3-6.

Analysis showed an interaction between story interest and condition in predicting the number of recall questions answered correctly. Those with high story interest answered more questions correctly in both the treatment and control conditions than those with low story interest. However, there was less of a difference between the proportion of recall questions answered correctly by those in the high and low story interest groups in the treatment group than in the control group. See Figure 3-1.

**Credibility**

The first slate of questions originally included seven questions designed to assess the perceived credibility of the news story. These questions were culled from several
studies (Armstrong & Collins, 2009; Arpan, 2009; Kiousis, 2001; Gaziano & McGrath, 1986). Based on factor analysis, one question was removed from this slate (“How much attention did you pay to this story?”) and moved to the interest battery. See Table 3-7 for the items included in this variable. The Cronbach’s Alpha of these six items is 0.89. This indicates a moderately high level of internal consistency. The cumulative mean of these six items was 29.06 of a possible 42 (S.D.= 6.427).

To test the H2 positing that those exposed to a news story and source document would rate the news story as more credible than those who saw only the news story, an independent sample T-test was used to compare means. Using the six-question credibility measure, there was no significant difference between the control (M=29.1429 S.D.= 5.89539) and treatment (M=28.9012, S.D.= 6.92929) groups. See Table 3-8 for a comparison of means of these questions. There was no significant difference between condition groups for any particular question. See Table 3-9 for individual credibility questions.

Based on these results, there was no evidence to support H2: Exposure to a copy of a court document and a traditional news story about that document will increase the reader’s perception of credibility of the story when compared to being exposed to a news story alone.

**Factors Influencing Credibility**

RQ2: What factors influence the perception of credibility of news readers?

Using the data collected to create a model predicting the perception of credibility, there were a several statistically significant factors. A MANOVA analyzed the factors measured in this study including story interest, news interest, time, gender, race, recall
and condition. Main effects included time, news interest and story interest. The more time participants spent viewing the information, the more likely they were to rate its credibility higher than the mean (p<.05). The higher participants rated their interest in news, the more likely they were to rate this story's credibility higher than the mean (p<.05). The most significant predictor of credibility was story interest. The group that rated story interest above the mean was more likely to highly rate the credibility of the story (p<.01). See Table 3-10.
Figure 3-1. Histogram of frequencies of combined time participants spent reading article and source document

Mean = 379.6
Std. Dev. = 620.438
N = 158
<table>
<thead>
<tr>
<th>Question</th>
<th>M (of 7)</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am interested in general news.</td>
<td>4.87</td>
<td>1.540</td>
</tr>
<tr>
<td>I am interested in reading news online or in a newspaper.</td>
<td>4.63</td>
<td>1.610</td>
</tr>
<tr>
<td>I am interested in news about crime.</td>
<td>4.58</td>
<td>1.507</td>
</tr>
<tr>
<td>I am interested in news about law enforcement investigations.</td>
<td>4.37</td>
<td>1.469</td>
</tr>
<tr>
<td>I am interested in news about international affairs.</td>
<td>4.30</td>
<td>1.496</td>
</tr>
<tr>
<td>I am interested in news about courts.</td>
<td>3.78</td>
<td>1.595</td>
</tr>
</tbody>
</table>
Table 3-2. Items included in the Story Interest variable for all participants

<table>
<thead>
<tr>
<th>Question</th>
<th>M (of 7)</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>This news story was interesting to me.</td>
<td>3.94</td>
<td>1.748</td>
</tr>
<tr>
<td>I enjoyed reading this news story.</td>
<td>3.71</td>
<td>1.698</td>
</tr>
<tr>
<td>I thought this news story was understandable.</td>
<td>4.64</td>
<td>1.617</td>
</tr>
<tr>
<td>I thought this news story was enjoyable.</td>
<td>3.71</td>
<td>1.636</td>
</tr>
<tr>
<td>I wanted to know more information about this news story.</td>
<td>3.51</td>
<td>1.812</td>
</tr>
<tr>
<td>How much attention did you pay to this news story?*</td>
<td>4.09</td>
<td>1.607</td>
</tr>
</tbody>
</table>

*This attention question removed from the credibility questions was included in this analysis.
<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (77)</td>
<td>.722</td>
<td>.264</td>
<td>-1.652</td>
<td>.101</td>
</tr>
<tr>
<td>Treatment (81)</td>
<td>.787</td>
<td>.227</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3-4. Independent T-test of proportion of recall questions correct with those responses that answered all incorrectly removed

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (75)</td>
<td>.741</td>
<td>.239</td>
<td>-1.872</td>
<td>.063</td>
</tr>
<tr>
<td>Treatment (79)</td>
<td>.807</td>
<td>.191</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3-5. Independent sample T-test of specific recall questions by condition

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>What did the person charged with a crime leave at the “dead drop”?</td>
<td>Control (77)</td>
<td>.73</td>
<td>.448</td>
<td>-1.925</td>
</tr>
<tr>
<td></td>
<td>Treatment (81)</td>
<td>.85</td>
<td>.357</td>
<td></td>
</tr>
<tr>
<td>Which agency investigated the crime?</td>
<td>Control (77)</td>
<td>.58</td>
<td>.496</td>
<td>-3.652</td>
</tr>
<tr>
<td></td>
<td>Treatment (81)</td>
<td>.84</td>
<td>.369</td>
<td></td>
</tr>
</tbody>
</table>
Table 3-6. Multivariate analysis of variance examining proportion of recall questions correctly by influencing factor

<table>
<thead>
<tr>
<th></th>
<th>Means</th>
<th>Mean Sq</th>
<th>DF</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>.717</td>
<td></td>
<td></td>
<td></td>
<td>.283</td>
</tr>
<tr>
<td>Treatment</td>
<td>.761</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>.741</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>.731</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All others</td>
<td>.706</td>
<td></td>
<td></td>
<td></td>
<td>.070</td>
</tr>
<tr>
<td>White</td>
<td>.773</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>News interest</td>
<td>5.464E-5</td>
<td></td>
<td></td>
<td>.001</td>
<td>.972</td>
</tr>
<tr>
<td>Low</td>
<td>.739</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>.740</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Story interest</td>
<td>.588</td>
<td></td>
<td></td>
<td>12.869</td>
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<td>Low</td>
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<td></td>
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<tr>
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<td></td>
<td>5.320</td>
<td>.023</td>
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<td>Low</td>
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<tr>
<td>Condition X story interest</td>
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<td></td>
<td></td>
<td>7.522</td>
<td>.007</td>
</tr>
<tr>
<td>Control/low interest</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Control/high interest</td>
<td>.595</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Treatment/low interest</td>
<td>.839</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Treatment/high interest</td>
<td>.738</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>interest</td>
<td>.734</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>News interest X story interest</td>
<td>Means</td>
<td>Mean Sq</td>
<td>DF</td>
<td>F value</td>
<td>p value</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------</td>
<td>---------</td>
<td>----</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Low interest/low interest</td>
<td>.034</td>
<td></td>
<td>1</td>
<td>.743</td>
<td>.390</td>
</tr>
<tr>
<td>Low interest/high interest</td>
<td>.683</td>
<td></td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High interest/low interest</td>
<td>.794</td>
<td></td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High interest/high interest</td>
<td>.651</td>
<td></td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>.046</td>
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<td></td>
<td></td>
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<tr>
<td>Total</td>
<td>14</td>
<td>9</td>
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Figure 3-2. Mean proportion of recall questions answered correctly by condition influenced by story interest
<table>
<thead>
<tr>
<th>Question</th>
<th>M</th>
<th>S.D.</th>
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<tbody>
<tr>
<td>How much do you trust this news story?</td>
<td>4.726</td>
<td>1.247</td>
</tr>
<tr>
<td>How accurate do you think the information in this news story is?</td>
<td>4.764</td>
<td>1.432</td>
</tr>
<tr>
<td>How credible do you think the information in this news story is?</td>
<td>4.768</td>
<td>1.362</td>
</tr>
<tr>
<td>How newsworthy do you think this story is?</td>
<td>4.986</td>
<td>1.499</td>
</tr>
<tr>
<td>How fair was this news story?</td>
<td>4.725</td>
<td>1.216</td>
</tr>
<tr>
<td>How informational do you think this news story was?</td>
<td>5.044</td>
<td>1.351</td>
</tr>
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</table>
Table 3-8. Independent sample T-test of perception of credibility by condition

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (77)</td>
<td>29.1429</td>
<td>5.89539</td>
<td>.235</td>
<td>.814</td>
</tr>
<tr>
<td>Treatment (81)</td>
<td>28.9012</td>
<td>6.92929</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Condition</td>
<td>N</td>
<td>Mean (Scale of 1 to 7)</td>
<td>St. Dev.</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>------------</td>
<td>----</td>
<td>------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>How much do you trust the information in this news story?</td>
<td>Control</td>
<td>77</td>
<td>4.88</td>
<td>1.11</td>
</tr>
<tr>
<td></td>
<td>Treatment</td>
<td>81</td>
<td>4.58</td>
<td>1.37</td>
</tr>
<tr>
<td>How accurate do you think the information in this news story is?</td>
<td>Control</td>
<td>77</td>
<td>4.79</td>
<td>1.21</td>
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<tr>
<td></td>
<td>Treatment</td>
<td>81</td>
<td>4.74</td>
<td>1.36</td>
</tr>
<tr>
<td>How credible do you think the information in this news story is?</td>
<td>Control</td>
<td>77</td>
<td>4.81</td>
<td>1.29</td>
</tr>
<tr>
<td></td>
<td>Treatment</td>
<td>81</td>
<td>4.73</td>
<td>1.42</td>
</tr>
<tr>
<td>How newsworthy is this news story</td>
<td>Control</td>
<td>77</td>
<td>4.91</td>
<td>1.48</td>
</tr>
<tr>
<td></td>
<td>Treatment</td>
<td>81</td>
<td>5.06</td>
<td>1.51</td>
</tr>
<tr>
<td>How fair was this news story</td>
<td>Control</td>
<td>77</td>
<td>4.70</td>
<td>1.18</td>
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<td></td>
<td>Treatment</td>
<td>81</td>
<td>4.75</td>
<td>1.25</td>
</tr>
<tr>
<td>How informational was this story</td>
<td>Control</td>
<td>77</td>
<td>5.05</td>
<td>1.24</td>
</tr>
<tr>
<td></td>
<td>Treatment</td>
<td>81</td>
<td>5.04</td>
<td>1.45</td>
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Table 3-10. Multivariate analysis of variance examining perception of credibility by influencing factor

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<tr>
<th>Influencing Factor</th>
<th>Means</th>
<th>Mean Sq</th>
<th>DF</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>29.462</td>
<td></td>
<td>1</td>
<td>.812</td>
<td>.369</td>
</tr>
<tr>
<td>Treatment</td>
<td>28.422</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>12.667</td>
<td></td>
<td>1</td>
<td>.343</td>
<td>.559</td>
</tr>
<tr>
<td>Male</td>
<td>28.602</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Female</td>
<td>29.276</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Race/ethnicity</td>
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<td></td>
<td>1</td>
<td>.207</td>
<td>.650</td>
</tr>
<tr>
<td>All others</td>
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<td></td>
<td></td>
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<tr>
<td>White</td>
<td>29.180</td>
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<td>1</td>
<td>6.129</td>
<td>.014</td>
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<td>High</td>
<td>30.328</td>
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<tr>
<td>Story interest</td>
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<td>1</td>
<td>7.558</td>
<td>.007</td>
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<tr>
<td>High</td>
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<td>Time</td>
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<td>1</td>
<td>5.928</td>
<td>.016</td>
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<td>Low</td>
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<td>High</td>
<td>30.340</td>
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<tr>
<td>Condition X story interest</td>
<td>10.849</td>
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<td>1</td>
<td>.294</td>
<td>.588</td>
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<td>Control/low interest</td>
<td>27.639</td>
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<tr>
<td>Control/high interest</td>
<td>31.284</td>
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</tr>
<tr>
<td>Treatment/low interest</td>
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<tr>
<td>Treatment/high interest</td>
<td>29.689</td>
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</table>
Table 3-10. Continued.

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<th>News interest X story interest</th>
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<th>Mean Sq</th>
<th>DF</th>
<th>F value</th>
<th>p value</th>
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</thead>
<tbody>
<tr>
<td>Low interest/low interest</td>
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</tr>
<tr>
<td>Low interest/high interest</td>
<td>29.650</td>
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</tr>
<tr>
<td>High interest/low interest</td>
<td>29.332</td>
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<td>High interest/high interest</td>
<td>31.323</td>
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<td></td>
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<tr>
<td>Error</td>
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<td>140</td>
<td></td>
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</tr>
<tr>
<td>Total</td>
<td>36.892</td>
<td>149</td>
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</table>
CHAPTER 5  
DISCUSSION

This quantitative experiment examined effects of exposure to a source document on the reader. It hypothesized that recall of the details of a news story was increased by also reading the document used to as a source for the information in the story. There was minimal evidence to show that reading the source document increased recall of details from the news story based on these recall questions. Two questions had significance between exposure to the source document and correct answers to the recall questions. On the majority of recall questions, exposure to the source of the document had little effect. There was no evidence to show that exposure to a source document increased perception of credibility on the news story.

Details of the news story were remembered just as well when readers saw a one-page summary of the events written as a traditional news story as when readers saw that news story and a three-page document written in chronological order with many more details. Readers perceived a news story that lacked any indication of its origin or author as more credible than not. When readers saw an official document giving a personal account of the events described in the news story, it did not increase the perception of credibility.

Other factors, particularly story interest, played a much larger role in predicting recall than providing the source document. The influence of story interest on recall was diminished by exposure to the source document. Though the literature linked heuristic-systematic processing model to credibility, the results of this study show it may be linked to recall. Recall was positively influenced by time exposed to the news story and
source document. Overall, participants spent a higher-than-anticipated length of time reading the documents. Participants also generally scored well on the recall questions.

The perception of credibility was generally unaffected by exposure to the source document. Here also, story interest had a much larger influence. The news story was rated as more credible than not, but the results of this experiment did not reveal much of what led readers to that perception. Emerging research shows that the definition of credibility is changing between generations, and this experiment showed exposure to a source document did not enhance the credibility of a news story among that group.

Based on these results, providing a source document alongside a news story may not be an effective method for a news organization to increase the across-the-board perception of credibility and recall among its readers. This should not be taken as reason for the news industry to abandon the practice of posting source documents. Other effects and effects on specific readers are not known yet. The results of this study suggest academic research needs to explore the concepts of credibility and heuristic-systematic processing of news further.

**Recall**

The results showed that participants did read the news story. The average student answered most of the seven questions correctly. Participants spent almost three minutes reading the story before moving onto the next portion of the experiment. The time spent exposed to the source document was also significant enough to read the three-page document. At about 2 minutes per page, there would be time for a careful reading.

This length of time, in fact, seems on the high side of what would be expected of college-aged students. There are some possible contributing factors to the average
time, including density of the material, unfamiliarity with the jargon and terms used, and distractions. On the first page of the document, the narrative was only the bottom third of the page. However, the narrative began with recount of the investigating agent’s credentials and then launched into some legal language. This type of sentence construction and vocabulary is not used in journalism. Perhaps participants needed to read slowly or reread particular passages to understand the content. It is also possible that because participants were not in a controlled setting, they were distracted by other information on the Internet or in the environment. In the case of the participant who spent more than an hour on the source document, this is highly likely. However, participants could begin this experiment in their homes or at school, which are likely the same locations they would be consuming real news. Participants may face those same distractions in non-experimental news reading.

Acknowledging that the time recorded for exposure may not be the time spent reading, the open-ended summaries checked that the readers knew the main themes of the story. These open-ended questions reflected that participants did read the article. Robinson and Levy (1986) found education to be the largest predictor of comprehension. Because the population used in this experiment were college students, the group may have a higher overall comprehension level than a population more evenly distributed across education levels.

While overall there was no statistical difference between the control and treatment groups in recall, there was marginal statistical difference between the groups when the participants who answered all recall questions incorrectly (N=4) were removed from the analysis. Those who answered did not answer a single recall question correctly –
meaning they could not identify correctly whether the main subject of the story was either male or female – either may not have read the news story or may have a language barrier that prevented them from understanding anything about the story. Comparing the means of the control and treatment groups of only those who answered at least one recall question correctly may be a better gauge of recall of those who actually read the story.

There was a positive correlation between exposure to the source document and recall on two particular questions. The relationship between recall and one question may be explained because of repeated information. This question asked for the agency that investigated the charges. The narrative portion of the criminal complaint begins “I am a Special Agent (“SA”) with the Federal Bureau of Investigation (“FBI”) and have been so employed for six years.” (p. 1). Another question asked what the defendant left at the “dead drop.” The specific language used in the correct answer – “documents” – was only found in the news story. The criminal complaint used different language – words such as “communication,” “item,” “envelopes,” and “answers to questions” – to convey the same concept.

It would be interesting to repeat the experiment with more recall questions. While this series of questions did not ask for specific numbers, the open-ended summarizations of the stories from both the control and treatment groups included numbers such as the potential fine and the amount of bail. While neither of those details was included in the source document, numerical recall questions could add a dimension of understanding about the type of information that exposure to source documents increases.
The three significant predictors of recall included race, interest in the story, and time. It is difficult to explain why race would influence recall. The race of the subject in this news story was never discussed; however, he did identify himself as a Jewish American. Appiah (2002) found that blacks were more attentive to black characters in television shows and blacks were less attentive to white characters in television stations. These attention levels in his studies led blacks to have less recall about white characters than black characters. While participants may not be self-aware of the attention they gave to the story, there was no correlation between race and the reported level of attention paid to the news story.

Adams and Cleary (2006) suggested that the model for understanding the relationship between journalism and race may be far more complex than researchers currently understand. In what they termed the “parity paradox,” they found that increased diversity in newsroom employees did not increase readership of that newspaper. In fact, the authors found that trust of the newspaper by blacks in the community actually decrease as newsroom diversity increased. Along the same pattern of thought, the results of this research should not be taken to mean that non-whites do not recall news as well as whites. Rather, it should hint that there is something more complex than is currently understood in the interactions between race and this news story.

The other two factors in recall – interest in the story and time spent reading the story and source document – are more readily explained. Those who spent more time reading the story would have more time to carefully read and learn its information.
Those who have more interest in the story would be more likely to give attention to the story and its details.

The findings of this study are in line with the correlation between interest and recall of young readers that Wanta and Gao (1994) found. They, however, counter the results from Flowerday, Shraw and Stevens (2004) that concluded the type of learning needed to answer multiple-choice questions about facts is not influenced by interest. The analysis in this experiment showed that recall demonstrated on multiple-choice questions about facts was always higher among those with high story interest. However, the effects of story difference were diminished when readers were exposed to the source document.

Those results fit with the heuristic-systematic processing model. Those who had high interest in the story sought more information from the story when presented it alone. Those who had low interest in the story learned less from the story alone, but when more information was forced on them they absorbed it. Armstrong and Nelson (2005) found that when readers used a heuristic method of reading they read less carefully and allow stereotypes to guide judgments. The participants in this study who had low interest in the story may have answered fewer questions correctly because they read the story less carefully and then guessed the based on what cues they did remember from the story.

In non-experimental situations, the effects of source documents on recall may not be prevalent among those with low story interest. If the reader has low story interest, he or she may be unlikely to choose to view the source document to obtain more information. Conversely, the reader with high story interest would be more likely to read
the source document even though it had a decreased benefit on his or her recall of the material.

While some studies showed that narrative journalism led to better recall than the inverted pyramid, the narrative criminal complaint in this story did not lead to better recall than the inverted pyramid news story. Narrative journalism has many of the same qualities as the narrative in a criminal complaint, but the two are not the same. A journalist writes a narrative for a different purpose than a complainant writes a narrative. The two professions are taught different standards and vocabulary. It could be that those differences are significant enough that the effects produced by narrative journalism are not replicated by other types of narrative. For this reason, it would be interesting to repeat this experiment using a different type of source document that contains a narrative, such as a grand jury report.

This experiment showed that the inverted pyramid provided information in a way that all of the questions asked could be answered by a majority of readers. In one page, it explained the events in a way that readers understood and remembered. Three pages of more-specific explanations written in chronological order and in the first-person perspective did not improve reader’s ability to remember the details of the news story. This shows, perhaps, that the journalist who wrote the story did an efficient job by taking complicated ideas, simplifying them, condensing them, and presenting them in an understandable format. Perhaps presenting more information to the reader was superfluous to understanding the main points of the story.
If, in fact, journalism’s job is to present the news in an understandable way, the author of this news story succeeded in doing that in one-third the space as the author of the criminal complaint narrative.

**Credibility**

This experiment measured if exposure to a source document increased the perception of credibility of the news story. This hypothesis was not supported. There was no evidence that those who were shown the criminal complaint found the news story to be any more credible than those who only saw the news story.

Analysis showed time and story interest were factors positively influencing perception of credibility. Those who had high story interest or spent longer than average time reading the material rated the credibility of the news story higher. These results affirm findings of past studies including Flowerday, Schraw and Stevens (2004) that found interest in stories is positively correlated with engagement in reading. Chaiken (1980) found that readers with high engagement were more likely to scrutinize a message for clues to credibility. Spending a longer time reading the material is a sign of engagement. Those who are interested in reading the story are more likely to engage with the story. Readers are more likely to believe material that engages them.

While the heuristic-systematic processing model was used in this study to predict that the perception of credibility would increase in those with low story interest with exposure to a source document, analysis did not show that result. There was no interaction between story interest and condition on the credibility measures. These results may indicate that the perception of credibility among these participants is more complicated than past research indicated. There may be more factors involved in judging credibility than simply the content of the message and the sources.
On the whole, participants rated the news story as more credible than not. When they were presented a story written in inverted-pyramid style but lacking any association with a news organization or particular author, they reported that they believed in and trusted in the information there. Providing an official document that carried with it the names of federal courts, a federal judge, and a FBI agent did not improve that credibility. Showing the reader exactly where the information contained in the news story came from and providing more details about the source did not improve the credibility of the story. While the use of anonymous sources harms the credibility of news, providing extensive details about the source did not improve credibility.

It could be that the reader was overwhelmed with details about the source of the news story. While the experiment did not test recall of the source document, the passage in the source document that details the author’s credentials was not discussed in the open-ended summaries. Those summaries revealed that the readers paid more attention to certain details of the motive of the defendant that were not mentioned in the news story. Perhaps, it speaks to the way American readers are trained to consume news. It could be that the inverted-pyramid format and journalistic writing style is so routinely associated with credible information that the association carries over to situations where other credibility cues are absent. Maybe readers need only a certain level of identification of the source of a story to deem its credibility. When given more than that level, source identification ceases to have any further benefit on credibility. This experiment did not reveal what about the news story made it credible.

While the credibility questions used here were proven in a past studies (Armstrong & Collins, 2009; Arpan, 2009; Kiousis, 2001; Gaziano & McGrath, 1986), the results of
this study may contribute to a number of studies research suggesting differences in the definition of credibility is different between younger and older readers. Armstrong and Collins (2009) found, for example, that college students did not rate the local daily newspaper produced professionally as any more credible as the campus newspaper produced by students.

Chung, Nam and Stefanone (2012) found that the traits college students used to judge credibility of news are different for print and online news. In a survey, the students reported factors like expertise and trustworthiness did influence their judgment of credibility for the online version of legacy news organizations, such as nytimes.com. However, the research found that hypertexuality and technological components were the largest influence on the perception of credibility among young readers of aggregate news sites like news.google.com. Armstrong and McAdams (2011) found that among young readers the predictors of trust differ between blogs and traditional media. Because the news story presented in this experiment was designed to look like it was on an aggregate news website, the lack of working links and interactivity associated with the story may have influenced the perception of credibility among the college students used as participants in this study.

Based on the results of this experiment Figure 2-1 needed revisions. Specifically, heuristic-systematic processing was not found to influence credibility but did influence recall. This was inconsistent with other studies (Flowerday, Schraw and Stevens, 2004; Mondak, 1990). While broad human behavior and HSM are not likely to change over time, it is more likely that the way people judge news changes as the way news is presented changes. So, while the model of HSM is relevant to other types of messages,
it may not be fully understood as it relates to news credibility and recall among
American readers who are beginning to see news presented in other formats than
traditional newspapers and television broadcasts. See Figure 5-1 for the findings of this
experiment of the factors influencing perception of credibility and recall.

While the arrows indicate the direction of relationships found in this study, it is
possible some relationships go both ways. For instance while spending more time with
the story increases credibility, this study did not examine if having a higher perception of
credibility meant that the participant then spent more time reading the story.

**Study Limitations**

While this experiment was designed to test the effects of source documents on
recall and credibility of news stories, it is limited by its design, manipulation materials
and experimental population.

This experiment was a post-test only design. It did not test the change in recall or
perception of credibility over time nor the change of any individual’s recall or perception
of credibility. The credibility of the news story graphic used in this experiment was not
pretested for credibility. Nor was the source document pretested for credibility. While the
results indicate what the perception of credibility was of the news story alone, no group
was shown the source document alone.

Additionally, participants were not in a controlled environment when they were
exposed to the news story or the source document. While a participant may have left his
or her Internet browser open for certain time period to the news story, it is not certain
that the participant spent that time reading the information. Distractions from
environmental sources could affect the results of this experiment, especially recall
because of the level of engagement and attention given to the information. However,
this environment may also be a more realistic replication of the conditions where people read news online because they were able to participate from their homes, school or work. A laboratory environment may have eliminated times in the extremes by and reduced the number of distractions to the participants.

The population of participants in this study was from a general elective course offered within the College of Journalism and Communications. Students from a variety of disciplines participated, but all the participants were students. They had the same education level, were in the same geographic area, and were younger than the average population. The experiment participants were more than two-thirds female, though there was no sign that there was any significant difference in the answers between the sexes. An experiment using a population more diverse in education, location and age may be helpful to generalizing results.

The particular news story and source document used in this experiment may be a limitation. While participants were asked to report any prior knowledge about the story, there was no pre-test to determine knowledge of this story or of the criminal court system. The types of news story and source document used in this story were only one example of a news story relying on a document. Other types of news stories, such as investigative stories, historical feature stories, or poll stories, may produce different results. Similarly, different types of source documents, such as government budgets, military reports, or vital statistics records may produce different results.

**Future Research**

Future research is needed to determine if exposure to source documents benefit either news organizations or readers. This study does not answer all questions about the effects of source documents. Nor is it able to answer how best to present source
documents. If the use of source documents continues, more baseline data will be needed for further research. That includes basics about when and why newspapers provide source documents. It also includes when and why readers examine source documents.

This study was not designed to measure how many participants choose to read the source document. However, when presented with the news story, 7 percent of readers clicked the link included in the news story. Different research could explain what motivates readers to look at source documents, what types of source documents are most interesting or important to readers, and how frequently readers seek out source documents.

While the heuristic-systematic information processing model predicted that readers would use cues from the source document to judge story credibility, this study found no link between perception of credibility and exposure to source document. More research is needed to understand why there was no effect or what, if any, cues within a source document would improve the perception of credibility. Additional research could establish if any source documents would improve the perception of credibility or that only there was no link between credibility and this particular pairing of news story and source document.

This study found a positive correlation between exposure to source documents and recall on particular questions. On other recall questions there was no correlation. More research could establish what types of information readers recall better when they are exposed to source documents. Overall, the effect of source documents on recall
was not highly significant. Future research could repeat this experiment with a different pair of news story and source document.

The effects of source documents on readers could also be examined in a study that reviews the online comments section of a news story that provides the source document. Comments could provide clues to what readers are paying attention to in both the news story and the source document. The written comments could also indicate how readers scrutinize a news story differently after they read the source document.

Finally, future research could study if news stories are written differently when they are accompanied by the source document. If a journalist knows the public will be scrutinizing the same documents used to write the news story, does he or she choose to present the information differently? The effects of providing source documents on the journalist or news story are unknown.

While news organizations and academic research could benefit from knowing the effects of source documents, it may also be a benefit to know that journalists are providing information in a way that readers remember the details. With the knowledge that exposure to source documents do not have substantial benefits to readers, news organizations may choose to dedicate their time and website space to more beneficial features.

**Conclusion**

News organizations are innovating ways to use Web 2.0 to deliver news to readers. One current trend in this area is to provide a PDF of source documents related to a news story to the reader. This is a service that news organizations can provide rather simply on the Internet while it was cumbersome or impossible for printed news
publications. It has changed the ease of access the general public has to certain public documents. It also has the potential to change the role of the journalist from reporter to recorder. While there are anecdotal examples of news organizations that do this, no empirical evidence shows the frequency of the practice by news organizations, nor anything about the readers who choose to read this information, nor the factors used in the decision about when to provide them, nor the effects on the reader of using them.

This quantitative experiment attempted to measure two potential effects of source documents on the reader: recall and credibility. It found recall scores on certain questions was positively correlated with exposure to the source document. Exposure to the source document had no effect on recall on other questions. It also found that while story interest and time spent reading the material did influence credibility, exposure to the source document had no effect on the perception of credibility.

This study is only the beginning of research into the use of source documents by news organizations. While older research on reader effects can be applied to this branch of research to help predict effects, there is no current research that measures the use of source documents. This practice is relatively new in the industry and is likely to develop and spread. Scholarly research on the topic could help news organizations make decisions about what type of content to provide readers. More research in this area could help theorists better understand how the public consumes and uses information.

The use of multimedia to provide news on the Web is on the rise, and continued study is necessary as technology develops to ensure that the best practices are employed. Continued study is also needed to understand the changing ways the public
seeks, consumes, and uses the news available to them. While the public documents used by journalists have always been available to readers, the practice of posting source documents to the websites of news organizations makes the process of finding that information far less burdensome for the reader. He or she can access the information with a click on a laptop instead of a drive to a courthouse or municipal authority.

Perhaps because this era is the first in which it is a realistic possibility that the reader would review source documents, there is no prior research that shows the effects of source documents on the readers. The only past research of aid are studies that look at the factors of effects and research that examined how past technological advances changed the way news was presented.

This study provides a beginning to understanding the effects of source documents on recall and the perception of credibility on the reader. Other mass communication scholars should take this research as supporting a positive effect of exposure to source documents on recall in certain instances and no effect of source documents on perception of credibility. It should be used to understand the overall picture of reader recall and perception of credibility and also as a starting point for more research on how technological advances affect the news reader’s experience.
Figure 5-1. Factors influencing recall and credibility in this experiment
Akamai employee charged with trying to sell secrets to a foreign government

Staff Report — 1 hr 48 mins ago

An employee of Cambridge, Mass., Internet company Akamai Technologies Inc. was arrested today and charged with wire fraud after allegedly trying to sell confidential information about the firm to a foreign government, according to the US Attorney’s office.

Elliot Doozer, 42, of Brookline, Mass., was charged in federal court with a single count of wire fraud and was held without bail pending a hearing on the matter. He had not hired an attorney. If convicted, Doozer could face a $250,000 fine and 20 years in prison.

Akamai, which cooperated with federal authorities on the case, said Doozer’s alleged activities never compromised the security of its customers. Akamai is the world’s leading Internet content delivery company, operating a global network used by large businesses and government agencies to efficiently distribute online data.

According to a complaint filed in US District Court in Boston, Doozer worked in Akamai’s finance department. The complaint claims that in June 2006, Doozer sent an e-mail message to the Boston consulate of a foreign country listed in the complaint only as "Country X."

"I am a Jewish American who lives in Boston," he allegedly wrote. "I know you are always looking for information and I am offering the little I may have." Doozer mentioned that Akamai served major clients like the US Department of Defense, European airplane maker Airbus, "and some Arab companies from Dubai." He wrote that he only knew about invoices and customer contact information, but would be willing to provide such data if it would benefit the foreign country.

The unnamed country told US law enforcement officials about the offer, and provided help with the subsequent investigation. In September 2007, an undercover FBI agent phoned Doozer and set up a "dead drop" location for secretly exchanging documents.

Over the next 18 months, Doozer allegedly visited the dead drop over 60 times, leaving behind sensitive Akamai documents, including contracts with customers, and a list of Akamai’s clients and employees. A hidden video camera captured Doozer’s visits.

While Doozer said he was mainly motivated by "my desire to help our homeland and our war against our enemies," he also asked to be paid $3,000 for the information.
Suffolk, ss. Boston, Massachusetts
October 5, 2010

AFFIDAVIT OF SPECIAL AGENT JAMES G. CROMER

I, Special Agent James G. Cromer, being duly sworn, depose and state as follows:

I am a Special Agent (“SA”) with the Federal Bureau of Investigation (“FBI”) and have been so employed for six years. Since July 2006, I have been the case agent on an investigation into the unlawful disclosure of confidential business information by an individual named ELLIOT W. DOXER. I submit this affidavit in support of a criminal complaint charging DOXER, 42, of 75 Park Street, Apartment 7, Brookline, Massachusetts, with wire fraud, in violation of 18 U.S.C. § 1343.

As set forth in greater detail below, I believe there is probable cause to believe that from in or around June 2006 and continuing until at least March 31, 2009, DOXER has engaged in a scheme to defraud his employer, Akamai Technologies, Inc. (“Akamai”), of confidential and proprietary Akamai business information by secretly providing that information to an individual whom DOXER believes to be an agent of a foreign government. Doxer carried out the scheme in part by sending an electronic wire communication (an email message) in interstate commerce on or about June 22, 2006; the email was addressed to the Boston consulate of a foreign country (“Country X”) and offered to provide the information for that country’s benefit. Doxer later asked for $3,000 as payment for information he had provided. He also wrote about his child’s mother, who lived abroad: “His mother is a terrible
human being and has caused me tremendous suffering. Not enough bad things can happen to her if you know what I mean.”

On or about June 22, 2006, DOXER, who works at Akamai's headquarters in Cambridge, Massachusetts, sent an email to the Consulate Of Country X in Boston, Massachusetts, containing the following message (with its original punctuation): I am a jewish american who lives in Boston. I know you are always looking for information and i am offering the little i may have. I work in a high tech company called Akamai technologies and i work in the finance department. we have more important clients including department of defense, airline manufacturers like Airbus and some Arab companies from Dubai. And today, Attorney General Alberto Gonzales is here on premises I would be happy to provide information to you but the limit of my information is invoicing and customer contact information. All this may not be of any value to you but i would offer any help i can to help' [Country X].

On September 18, 2007, an FBI undercover agent (“UA”) pretending to be an agent of Country X called Akamai’s general telephone number and asked to talk to “Elliot Doxer.” After the agent was transferred, a male came on the line and acknowledged that he was DOXER. The conversation (omitting pauses and non-grammatical interjections) between the UA and DOXER proceeded as follows:

UA: Elliot, my name is Benjamin.
DOXER: Yeah.
UA: I am calling because I believe that you and I, I understand that we share a mutual interest in the welfare of our people and our homeland.
DOXER: okay -
UA: And, you may recall that you made an offer, an offer to help us about a year ago or so.
DOXER: Ah! Is this who I think it is?
UA: I think you know exactly who it is.
DOXER: Okay.
UA: The — it took us a little while, but, finally, we're getting in touch with you regarding that matter.
DOXER: You know I mean, I don't have much to offer, but whatever, whatever I have, you know, I want to [Laughter.]
UA: Well look, it's like a jigsaw puzzle, sometimes the pieces of the puzzle, and they may to you seem insignificant — but when I put the puzzle together, maybe they mean something.
[Discussion confirming that DOXER had not discussed his offer with anyone else, instructing him not to mention the phone call to anyone else, confirming that the agent represented Country X, and summarizing the communications procedures.]

My review of the October 10, 2007 video surveillance footage fixed on the dead drop shows that an individual retrieved the item that I left on October 9, 2007. That individual's physical appearance matches a Massachusetts RMV photograph of DOXER.

Over the course of the next 18 months, this sequence of events was repeated numerous times. I would leave a communication for DOXER at the dead drop and would return later to find that my communication had been retrieved and/or that a communication had been left for me. On each such occasion, my review of the videotape fixed on the dead drop indicated that the person who retrieved
the communication and/or left a communication for me was DOXER. DOXER visited the dead drop on at least 62 occasions to place items, retrieve items, and/or check for new items.

On October 25, 2007, I left at the dead drop an envelope containing questions about DOXER's vacation, travel, and personal plans; why he had contacted Country X; and the type of work and security at his company. When I returned to the dead drop on October 26 2007, the envelope containing the questions was gone and had been replaced by two new envelopes. The envelopes contained answers to the questions I had posed to DOXER in an earlier communication. Among other things, DOXER indicated that although he could not obtain technical information about his company, he could provide a list of its clients. He indicated that he worked in Akamai's credit and collections or finance department, for which he contacted clients located in the United States and a number of foreign countries, including Country X. He stated that he had access to names, e-mails, addresses, invoices, and signed contracts for most, if not all, of the company's clients. He also broadly described Akamai's physical and computer security systems.

In his answers, DOXER also indicated that he could travel to Country X and support special and sensitive operations in his local area if needed. I left questions for DOXER at the dead drop again on November 9, 2007. On November 27, 2007, I checked the dead drop and found an envelope from DOXER. It contained a thirteen-page list identifying over 2,000 of Akamai's customers. It also contained handwritten pages that, among other things, asked whether the information was useful and referred to DOXER's risk of losing his job. The handwritten pages also stated that DOXER was not motivated by money, but would appreciate receiving something for his time, efforts, and risk. DOXER also asked if I could find out anything about his child, who lives abroad. I later learned through interviews with Akamai representatives that the thirteen-page list of businesses represented a significantly large number of Akamai's customers. Among the other items DOXER provided during the 18-month period that I corresponded with him through the dead drop were the following: In a letter I recovered from the dead drop on December 26, 2006, DOXER wrote, “You neglected to respond to my request for some kind of payment for my services. . . . I could be fired and am also breaking the law -- all I want is some compensation. What do you think is fair for the information I have provided? I think some of the things I have told you you would not be able to find out anywhere else[.]”
APPENDIX B
POST-TEST QUESTIONS

Recall
1. Were you aware of this event before reading about it here?
   Yes
   No
   Not sure
2. The main person involved in this news story was
   An employee of an Internet company
   A customer of an Internet company
   A contractor with an Internet company
   None of the above
   Don’t know
3. What is the gender of the person charged with a crime in this story?
   Male
   Female
   None of the above
   Don’t know
4. In what area of the country did this news take place?
   The South
   The Pacific Northwest
   New England
   The Midwest
   None of the above
   Don’t know
5. The person involved in this story was charged with what crime?
   Stealing a car
   Wire fraud
   Money laundering
   Murder
   None of the above
   Don’t know
6. What did the person charged with a crime leave at the “dead drop”?
   Animals
   Documents
   Money
   Computers
   None of the above
   Don’t know
7. Which agency investigated the crime?
   Boston Police
   U.S. Marshall Service
   FBI
   Massachusetts State Police
   None of the above
   Don’t know
8. Who did the person charged with a crime contact with an offer of information?
   A foreign consulate
   A former co-worker
A cousin
A technical support employee
None of the above
Don’t know

Credibility
On a scale of 1 to 7, rate the following:
1. How much do you trust the information in this news story?
2. How accurate do you think the information in this news story is?
3. How credible do you think the information in this news story is?
4. How believable is this news story?
5. How newsworthy is this news story?
6. How fair was this news story?
7. How informational was this news story?
8. How much attention did you pay to this news story?

Interest
On a scale of 1 to 7, rate the following:
1. I am interested in news.
2. I am interested in reading news online or in a newspaper.
3. I am interested in news about crime.
4. I am interested in news about law enforcement investigations.
5. I am interested in news about international affairs.
6. I am interested in news about courts.
7. This news story was interesting to me.
8. I enjoyed reading this news story.
9. I wanted to know more information about this news story.

Demographics
1. How old were you on your last birthday?
2. What is your gender?
   Male
   Female
   Prefer not to say
3. What year in school are you?
   Freshman
   Sophomore
   Junior
   Senior
   Graduate
   Other
4. What is your race?
   American Indian or Alaskan Native
Asian or Asian American (Includes Chinese, Japanese, Korean, Vietnamese, Filipino)
Black or African American
Hispanic
Native Hawaiian or other Pacific Islander
White
Other race, please specify:

5. In what college at the University of Florida are you enrolled? If you are double majoring, please answer with your primary major in mind.
   Agricultural and Life Sciences
   Design Construction and Planning
   Business Administration
   Dentistry
   Education
   Engineering
   Fine Arts
   Health and Human Performance
   Journalism and Communications
   Liberal Arts and Sciences
   Other

6. Are you an American Citizen?
   YES
   NO
   Prefer not to say

The following questions are optional. They will be used only to award extra credit.

7. What is your Gatorlink name?
8. What is your Gator ID (numbers only)
APPENDIX C
INFORMED CONSENT

Please read this consent document carefully before you decide to participate in this study.

Protocol Title: Examining effects of source documents on recall and credibility of news
#2011-U-1202

Purpose of the research study: The purpose of this study is to examine recall and credibility of news.

What you will be asked to do in the study: You will be asked to read a news story and answer questions about the content. You can take it from any computer with Internet access.

Time required: 15 minutes

Risks and Benefits: There are no anticipated risks involved with this study. We do not anticipate that you will benefit directly by participating in this study.

Compensation: You may receive extra credit for the class in which you were recruited for your participation in this study. The extra credit will not exceed 2 percent of your final grade in the course and can only be applied toward one course.

Confidentiality: Your identity will be kept confidential to the extent provided by law. You will be asked to provide your Gator ID number and Gatorlink name to provide your information to your instructor for extra credit, but it will not be linked with your answers.

Voluntary participation: Your participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study: You have the right to withdraw from the study at anytime without consequence.

Whom to contact if you have questions about the study: Megan Duncan, Department of Journalism, University of Florida, P.O. Box 118400, Gainesville, FL 32611 or maduncan@ufl.edu; or Cory Armstrong, Department of Journalism, University of Florida, P.O. Box 118400, Gainesville, FL 32611 or carmstrong@jou.ufl.edu

Whom to contact about your rights as a research participant in the study: UFIRB Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; ph 392-0433.
**Agreement:** I have read the procedure described above. I voluntarily agree to participate in the procedure. I understand that I may print this page for my own records.
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Megan Duncan received her Master of Arts in Mass Communication from the University of Florida in spring 2012. She received her Bachelor of Arts in Journalism from Point Park University in 2005.