

The impact of live versus packaged news on television viewers' information processing
of episodes of the American intervention in Iraq

by

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DEDICATED TO:

Aos meus pais, a Rober, a Fernando, e aos amigos,
por facerme como son.

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ABSTRACT

This study evaluated the impact of two modes of presenting television news, live versus packaged reports, on viewers' processing of incidents that occurred during the 2003 American intervention in Iraq based on the limited capacity model proposed by Lang (2000). An experiment was conducted using a volunteer sample of 200 students. No differences were found in the encoding, storage, and retrieval performances of the group shown live reports and the group that saw packaged stories.

This study showed the limitations of the limited capacity model to predict how subjects comprehend the news. Those who saw live reports and those exposed to packaged news did not differ in their encoding, storage, and retrieval performance despite some interaction effects with gender. Although encoding was correlated to storage and storage resulted to retrieval, their influence was not strong enough to predict understanding. Among the individual characteristics, active gratifications significantly contributed to storage, retrieval and understanding.

Demographic variables also exerted their influence on the three stages of the information processing model. Gender and year in college made a difference in encoding and understanding; gender also predicted storage and retrieval.

The findings indeed indicate that the mode of presenting news (live versus packaged) did not affect performance in each of the three model stages that, in turn, did not predict understanding. News producers and directors may find these results useful not only to analyze if live reports are worth the time, effort and resources but also to consider different ways of presenting the news in order to make newscasts more effective and understandable.

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

The use of satellite television started to gain importance during the Persian Gulf war, which was considered to be “not so much a revolution as a reminder –an early warning– that the cycle of change, of speed, of influence, and finally of acceptance, was about to roll through once again, this time with a louder thunder” (Neuman, 1996, p. 225). The beginning of the American intervention in Iraq in 2003 witnessed the power of satellite broadcasting again in reporting another major international conflict. That year, during 26 days of major combat operations, television networks and cable channels all over the world sent journalists equipped with the latest technology to cover the war. Since the missile strike on Baghdad on March 19, 2003 through the fall of Tikrit on April 14, 2003, US network evening newscasts ran a total of 1,100 stories about Iraq (Media Monitor, 2003). According to Potter (2003):

“Television coverage of the war in Iraq was like nothing we had ever seen. Embedded journalists using satellites and videophones sent the action back live to American living rooms. [For instance] CBS’ Mark Strassman told viewers about a grenade attack on US troops in Kuwait mere minutes after it happened, something that simply would not have been possible in any previous conflict” (p. 1).

The television coverage of the American invasion of Iraq was both intensive and extensive, acting like a spotlight that showed select moments of the conflict. Reporters and correspondents wanted to be there while events unfolded. This led NBC correspondent Roger O’Neil to wonder, “how do you continue to report while appearing in front of the camera all of the time? ” (Turner, 1998, p. 122). This intense coverage made viewers familiar with newscasts that are often interrupted due to breaking news: “Anchors repeatedly cut off reporters in mid-sentence to air compelling but unexplained images of explosions or fires”

(Potter, 2003, p. 1). The absence of explanations and context in fast-paced live reports is indicative of the common observation that “journalistic standards have not always kept up with technology advances”(Seib, 2001, p. x). A more intense coverage does not always mean better treatment of the information.

Seib (2001) thinks that the demand for immediacy came at a price. Although live coverage was up-to-the-minute, sometimes it lacked analysis and interpretation.

“Going live is exciting and dramatic. [However] taste and common sense may be pushed aside in the rush to get on the air fast. The scrupulous allegiance to accuracy that should be the cornerstone of journalism is sometimes ignored because there just isn’t time to check facts” (Seib, 2001, p. ix).

Was the audience able to follow and understand such coverage? According to Livingstone (1999), people need “rituals,” a path or a process to be oriented to their world. According to her, this need for ritual cannot be met by merely adding information:

“Information is significant only insofar as it becomes known, is appropriated and made usable by being incorporated into and interpreted. Otherwise it washes over us, as do most television images, as an excess of ‘information’ with which we do nothing and which does not become knowledge” (Livingstone, 1999, p. 83).

Although live coverage fulfills some television viewers’ needs, an excessive amount of hours broadcasting raw events as they happen may produce changes in the role journalists play in covering international conflicts. In the case of Iraq, it was sometimes reduced to a descriptive pattern that showed the audience where they were and what was happening as a mere intermediary, without explaining the importance of the events in the course of the war. Seib (2001) also questioned this lack of rigor in the coverage of the Gulf War. “Television’s reporting of the Gulf War was an example of saturation coverage. Live components of the

Gulf War coverage got the most attention, but ‘liveness’ in itself does not necessarily mean that breaking news are being reported” (Seib, 2001, p. 30, 32).

When the Media Went to War

“The real explosion of professional war coverage came with the US Civil War. As in all things, America went in for mass production” (Evans, 2003, p. 23). This coverage of the Civil War brought to the American readers a taste for the immediate; on the other hand, the American-Spanish war coverage was, to some extent, the starting point for looking for “an image.” As Hearts famously uttered in 1898, “you furnish the pictures; I’ll furnish the war” (Campbell, 2005, p. 1).

The Vietnam War has been called the “living room war” (Seib, 2001, p. 30). Vietnam was the first conflict where viewers could watch dramatic images and action on TV. However, at that time, the “satellite system was not yet complete to allow direct broadcasting from Vietnam” (Seib, 2001, p. 31).

The Persian Gulf War in the early 1990s served as a precursor to the predominant use of live coverage today. Neuman (1996) describes that war as “the pinnacle of real-time television war, where viewers could not so much see war as they could observe news gathering in the war zone” (p. 215). Lawrence Grossman, the former president of NBC News, comments on the nature of the Gulf War coverage:

“The on-the-scene cameras and live satellite pictures at times served to mask reality rather than shed light on what was happening ... Rumors, gossip, speculation, hearsay and unchecked claims were televised live, without verification, without sources, without editing, while we watched newsmen scrambling for gas masks and reacting to missile alerts” (Seib, 2001, p. 42).

How wars are covered now may certainly affect media performance in the future. Therefore, it is necessary to ascertain the effects live coverage has had so far on the viewers' knowledge and understanding of important international events, especially those that involve armed conflicts. Recognizing the importance of television news accounts as historical documents, Hoskins (2004) argues: "Our understanding of the past starts to be overwhelmed by its mediated representations" (p. 11). If television newscasts hold that power, it is important to understand how international conflicts are remembered based on mass media accounts.

The purpose of this study is to understand how live versus packaged broadcast news about an important international event influence audience's knowledge or cognitions about a conflict. Did this coverage provide viewers with enough information so they can create their own perspective and conclusions about the US foray in Iraq?

Being "where the action is" is fundamental to the journalistic profession; so is being able to report from there. However, that a reporter is on the spot does not necessarily equate to more informative coverage. This study therefore asks: How do live versus packaged news of the Iraq war affect the way people process information about the conflict? Did the live coverage of the Iraq war provide for a wider and deeper audience perspective on the conflict? Did this coverage create a better-informed audience?

The findings of this study are expected to benefit several groups. First, the broadcast media could be informed of ways to allocate and spend their resources more sensibly. A thorough understanding of the effects of live and packaged newscasts could assist media managers in evaluating different forms of presenting the news.

Journalists who cover armed conflicts are obviously exposed to dangerous situations unprepared. In many cases, war reporters are sent to cover conflicts in poor working conditions. In addition to the usual hazards of reporting ongoing combat, today's combatants sometimes target the journalists themselves (Evans, 2003). A well done live coverage that informs the public of events in far-flung places should therefore be worth the effort and the risks.

From a social point of view, it is helpful to understand if an excess of live coverage is desensitizing people to the effects of war as some critics suggest. Exposure to continuous war images without explaining what they mean could lead to public misconceptions about the war, sometimes making them immune to the casualties and damages war inflict.

CHAPTER II

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Research on Live Reporting: Organizational Perspectives

Advances in telecommunications have made possible great strides in the style of reporting. Live coverage is a phenomenon that was ushered in by satellite technology and other ways that made live feeds accessible to the majority of broadcasting networks. The proliferation of microwave and satellite trucks makes it feasible for even small market news operators to go “live from the scene” (Tuggle and Huffman, 1999). After the Gulf War, broadcasting live from where the conflict was taking place became a must for broadcasting journalists who later covered such international conflagrations as the Bosnian war, the conflict in Kosovo, and more recently, the Iraq war.

Nowadays, live coverage of events has become a common practice of television stations. Even though Tuggle and Huffman (2001) report that stations aired more stories containing live elements than standard reporting packages, the impact of live reporting has not been widely studied.

Indeed, Tuggle and Huffman (1999, 2001) bemoan the lack of research that examines the relationship between live coverage and the public’s understanding of the issues the reports address. They also pointed to the need for further studies that look at how viewers assess live coverage and its impact on their understanding and enjoyment of news (Tuggle et al., 1999). In particular, experiments that test viewers’ satisfaction with a newscast containing extensive live reporting versus the same newscast edited to contain little or no live material are few and far between.

Tuggle and Huffman's 1999 study analyzes broadcast practitioners' views about live reporting gained through telephone and personal interviews with 112 news directors and 108 senior reporters in the United States. Although the study showed a clear prevailing belief among news directors and reporters that live reporting adds something to the presentation of the news and hence helps attract viewers, this assertion has not been supported by research findings. Directors and reporters also agree that "live for the sake of live" takes place in newsrooms across the nation (Tuggle et al., 1999).

None of Tuggle and Huffman's (1999) respondents denied that live coverage has seared images into the nation's and the world's collective consciousness. However, several reporters opined that an overuse or misuse of the technology can desensitize viewers to live reporting and, therefore, live shots may run the risk of becoming "mundane" (Tuggle et al., 1999).

In the study, many reporters indicated that the story often suffers the consequences of this rush to use live reporting. A reporter wrote that "attempts to make every story 'late breaking' often do little to help viewers understand the story" (Tuggle et al., 1999, p. 501). This in-depth look at the perceptions of news directors and reporters, however, failed to match media practitioners' evaluations of live coverage with those of the general viewing public.

Tuggle and Huffman's second study (2001) is a content analysis of early evening programs in big, medium and small markets. They found that in the 24 stations included in their sample, live reports consume a greater amount of news time than traditional taped packages. From the results of this analysis, they concluded that in the majority of these reports, there was a lack of compelling news value. Most of the time, they affirm, there was

no apparent journalistic justification for going live, adding evidence to their contention that technology, to some extent, drives journalism in television newsrooms today. This trend of “going live” has also influenced the way international conflicts and warfare are covered, with all stations trying to get their reporters “where the action is,” but many times without considering the quality of the final news product.

After the second anniversary of the American intervention in Iraq, there is still a lack of scholarly work on the effects of television coverage on people’s understanding of this ongoing conflict, despite the fact that it was (and still is) the most heavily televised war in history (Rutenberg and Carter, 2003). While some news executives brag that television scored a spectacular success in its coverage of the Iraq war, others question how clear and complete the coverage really was. Some argue that the coverage was limited by the scope of the war, the very nature of the television medium itself, and the mismatch between images and words. Vivid pictures from one fixed position in a battle of no great consequence could overwhelm any context given by an anchor or correspondent reporting live (Rutenberg and Carter, 2003).

The Program on International Policy at the University of Maryland, in collaboration with the Knowledge Networks Poll, conducted a study (2003a) about public misperceptions of the Iraq war. Their findings, based on seven nationwide polls, revealed that Americans have significant misperceptions of the conflict, and that the frequency of these misperceptions varies significantly according to the individual’s primary source of news (PIPA, 2003b).

From June to September 2003, the Program conducted an in-depth analysis of audience responses using a national sample of 3,334 respondents. The study showed that

48% of the respondents erroneously believed that evidence of links between Iraq and al Qaeda had been found, 22% said that weapons of mass destruction had been found in Iraq, and 25% believed that world public opinion favored the US going to war with Iraq (2003b).

Their results also showed that 43% of the respondents reportedly followed the news about the situation in Iraq somewhat closely, 29% not very closely, and 13% very closely through television and radio reports. A substantial majority, 79%, reported following TV and radio news, and 12% said they received the information from newspapers and magazines (PIPA, 2003a). The study also concluded that those who pay greater attention to the news are not less likely to have misperceptions (PIPA, 2003b).

The current study attempts to determine the effects of live coverage of the Iraq war on the knowledge audiences' hold about select episodes of the war.

The Effects of Television Techniques and Procedures on Understanding and Memory

Many studies have been conducted to discover ways by which TV news can be made more memorable. They focus on the use of texts, visuals, and sound to make news reports easily understandable to the general public. In the late 1970s and early 1980s, scholars were concerned about the audiences' ability to recall specific news items with or without help, linking this capacity with the knowledge that viewers get from the news (Brosius, 1989; Graber, 1990; Gunter, 1980; Katz et al., 1977; Neuman, 1976; Son et al., 1987). This study aims to contribute to this effort by exploring the impact of live versus packaged news reports on how viewers process the news.

According to Graber (1990), "in some respects, the age of television has turned back the clock of human learning to an earlier age when most learning was based on what the eye could observe directly. Television makes it possible to see events happening, immediately or

after some delay, rather than having to rely only on verbal descriptions” (Graber, 2000, p. 134). Graber (2000) posits that one might expect people in the television age to have a better grasp on reality than ever before. However, most studies on learning through television indicate disappointing levels of knowledge acquisition.

In the late 1980s, Son, Reese and Davie (1987) studied how visual and verbal information affected learning. In their work, they distinguished between recall and understanding based on the information processing theory which, among other propositions, states that “there is the possibility of remembering things we do not understand and understanding things that we cannot later remember” (Woodall, Davis and Sahin as quoted in Son, Reese and Davie, 1987, p. 209). The authors found that recall was more directly tied to memory while understanding was focused on the ability of the subjects to reproduce the central points of the news because understanding entails that viewers recall more than just the details of the news item (Son, et al., 1987).

The vast majority of research that has been done related to improving memory and understanding of TV news focused on the visual or audio content of the news item (Gunter, 1980; Brosius, 1989; Edwarson et al., 1992; Lang et al., 2000). However, there is a paucity of research on the relationship between the style of coverage (live or edited) on audience recall and understanding of the news. Some research findings related to the influence of TV news are instructive on this regard.

Severin (as quoted in Gunter, 1980) argues that visuals can improve learning when they can be easily associated with the audio-verbal content. Otherwise, they may cause distraction and interfere with the learning process. In an experiment conducted in 1980, Gunter found that film clips (in which the newscaster, who was out of shot, presented a brief

news report over a short sequence of film footage) had the highest mean of correct recall than no-insert items (in which the newscaster in a study setting read the news directly into the camera). According to him, picture content did seem to have a profound effect upon learning from brief TV news items (Gunter, 1980). Such a finding can be easily related to what happens in television live coverage where the reporter stands on the scene most of the time.

Another study by Son, Reese, and Davie (1987) looked at the relationship between redundancy in newscasts with story recap on understanding and memory. Their findings illustrate how redundancy in pictures and words significantly improved recall of TV news stories, but not story understanding. On the other hand, recapping was found to be an effective technique for increasing viewers' understanding of TV news, but not necessarily general recall. From the standpoint of TV news, redundancy in pictures and words and recapping are easier to include in edited videos than in live reports where the reporter does not have control over the sequence of events.

In order to study the effects of edits or camera changes in the same visual scene on viewers' arousal and memory, Lang et al. (2000) differentiated between related cuts, in which the information following the cut was narratively and semantically related to the information preceding the cuts, and unrelated cuts. They found that memory about information following the cut was better in the related ones. They also concluded that unrelated scene changes make it more difficult for viewers to process the message. According to them, the more the edits, the better the memory for the content (Lang, et al., 2000).

However, as Edwarson et al. (1992) pointed out, there is still a dearth of studies focused on the fast-paced coverage of news reports about riots, wars, and disasters. "Further

study needs to be done to determine whether such fast cutting would provoke even greater recall by providing more intense orienting responses or would, to the contrary, result in a loss of understanding” (Edwarson et al., 1992, p. 408).

Harris (1994) explained that something peculiar happens with emotionally intense visual shots about wars, accidents, famines, or riots. Their effects on memory, he claims, are complex.

“An intense emotional image, such as a shot of a bloody disfigured body of an accident or war victim, actually inhibits memory for verbal information presented just prior to the picture. However, material presented during or after the intense image is remembered shortly afterward or, in the case of material presented after the image, sometimes even better than material not accompanied by an intense image” (p. 156).

Edited Packages versus Live Coverage

Live coverage could be defined as consisting of on-the-scene reports broadcast simultaneously with a breaking incident or almost immediately after the event has happened. In live coverage, the anchor of the news telecast introduces the correspondent on the scene, after which the journalist explains the footage that is being shown and the latest facts related to the news item. In an edited packaged report, the journalist is usually not shown on the screen and news reports are broadcast as film clips with a narrator. Packaged videos are normally edited following journalistic procedures, such as the inverted pyramid style of writing, and are usually richer in analysis and expert commentary.

Mainly because of time constraints, live reports do not normally include visual aids. Furthermore, most of the time, there is not much redundancy in pictures and textual content because the journalist is often in the footage being shown. On the other hand, packaged videos are more likely to include recapping and redundancy, as well as more camera changes.

Because of the way they are organized, the cuts are related to each other based on considerations of emotional impact and efficiency in message delivery.

These organizational and narrational elements that characterize packaged videos and live reports may have different effects on how people process information. Therefore, this study compares both modalities in order to determine whether such differences exist and whether such differences are significant enough to affect people's understanding of a specific international event, such as the ongoing conflict in Iraq.

Theoretical Framework

The limited capacity model of mediated message processing was specifically developed by Lang (2000) to investigate how viewers process and interact with mediated television messages. This theory has its roots in the field of cognitive psychology and in social scientific research in mass communication developed over the past 30 years.

According to Lang (2000), the limited capacity model of mediated message processing is anchored on two basic assumptions: that people are information processors, and that a person's ability to process information is limited. According to this model, information is processed in people's brains follow three steps: encoding, storage and retrieval.

The process of encoding "involves getting the message out of the environment into a person's brain. "[It refers to] the encoding of the message into working memory" (Lang, 2000, p. 47). The process of linking newly encoded information to previously encoded ones is defined as information storage. "As a person thinks about the message, more and more associations between the new information and old information are formed. The more a person links a new bit of information into this associative memory network, the better that information is stored" (p. 50). Storage is therefore affected not only by viewers' preferences

but also by the resource limitations of the human information-processing system (Lang, 2000).

Retrieval is the final stage of information processing. “It is the process of reactivating a stored mental representation of some aspect of the message” (Lang, 2000, p. 50).

The key assumption of the limited capacity model is that “processing requires resources, that resources are limited, and that resources can be allocated among the [three] subprocesses involved” (Lang, 2000, p. 55). This assumption explains the ability of television messages to elicit higher levels of attention but lower memory results, taking into account the fact that viewers are limited by these three subprocesses and that television often overload their capacity (Lang, Potter and Grabe, 2003).

When the approach is applied to television viewing, the capacity of remembering a message “is the result of how much of the message was encoded, how well the encoded material was stored, and how much of the stored material is retrievable” (Lang, 2000, p. 56). The characteristics of the medium make this process difficult. “The viewer must keep pace with the message. If viewers fail to encode some aspects of a scene and the scene changes, they did not encode at all. Similarly if you do not store something you encoded, that information will remain unlinked or poorly linked” (Lang, 2000, p. 54).

Lang’s (2000) model predicts that a viewer will remember the content better if he or she does not have to retrieve previously known information because the television message is well constructed. On the other hand, “if a viewer needs to retrieve a great deal of information in order to follow the television message, then that viewer will need to allocate resources to retrieval while viewing. That viewer will have fewer resources available to encode and store information in the message, and memory (recognition, cued recall, and free recall) for the

content of the message will be reduced” (Lang, 2000, p. 63). The inherent characteristics of news packages versus live reports suggest that viewers will have to retrieve less information from an edited or packaged report because it uses formal structures that usually include contextual information in sequential or chronological order. The processing of information presented in packaged or edited news, therefore, is likely to be more efficient.

In order to measure the three stages of processing, Lang (2000) conceptualizes memory according to three dimensions.

The encoding process is linked with *recognition*, defined by Lang (2000) as “the most sensitive measure of memory because the item to be recognized is presented to the subject” (p. 56) containing multiple clues to retrieve the information. How thoroughly information was stored can be measured by *cued recall*, with only a single cue presented to help the subject retrieve an item from memory. Finally, the effectiveness of the retrieval process can be analyzed by *free recall* determined through open-ended questions without any cue that would indicate how well a subject has retrieved a piece of information (Fig. 2.1).

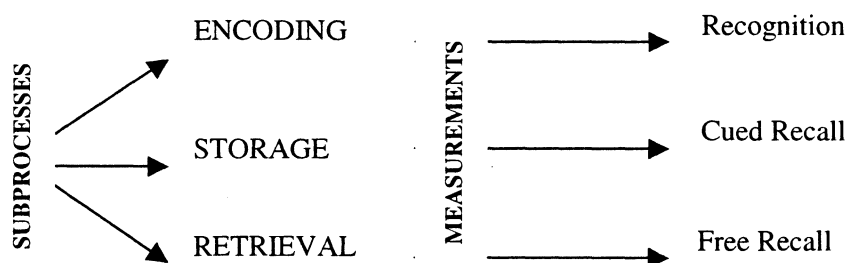


Figure 2.1. The three stages of the limited capacity model proposed by Lang (2000).

This three-stage model coincides with the three dimensions of learning and knowledge acquisition from television news that Brosius (1999) posits. He measured *general recall* associated with the memory for story topics contained in news items; *recognition*, the

knowledge of story details; and *exact recall* that describes how people understand the central points of the items.

Comparing these two models, one can surmise that Brosius' general recall is equivalent to Lang's recognition; that Brosius' recognition of details is comparable to Lang's cued recall; and that Brosius' exact recall is similar to Lang's free recall. If the subject can accomplish these three information processing tasks, it can be said that the mediated message, in these case television news, was understood.

Lang (2000) also suggested that her findings offer new insights about the processing mechanisms underlying message attributes, such as narrative structure, genre, appeal, and emotion. This study attempts to determine the presence of such message attributes in live versus packaged (or edited) news reports to examine their effects on the public's understanding of the Iraq war. This study submits that narrative structures such as recaps, matching audio-video components, and camera angles and cuts in packaged news reports will require from viewers less processing resources than live reports that often lack such attributes.

Considering the foregoing literature, it is therefore pertinent to ask the following research questions:

RQ₁: Is there a difference in encoding performance between viewers exposed to live reports versus packaged news reports of episodes of the American intervention in Iraq?

RQ₂: Is there a difference in storage performance between viewers exposed to live reports versus packaged news reports of episodes of the American intervention in Iraq?

RQ3: Is there a difference in retrieval performance between TV news viewers exposed to live reports versus packaged news reports of episodes of the American intervention in Iraq?

RQ4: Do the two groups exhibit different levels of understanding of these episodes?

According to Lang (2000), the information processing model of mediated news may also assess potential gaps in knowledge among media audiences of different socio-economic backgrounds as proposed by Olien, Donohue, & Tichenor (1982). Lang's (2000) model predicted that:

"Those who already have memory networks associated with the topic require few processing resources to activate that network and add new information to it, whereas those with little knowledge may need a significant allocation of resources in order to build new knowledge structures and store information" (p. 65).

Grabe, Lang, Zhou and Bolls (1999) also found that television viewers with less than high school education and viewers with higher education pay equal levels of attention to TV news during the encoding process. However, those with high education remembered significantly more information from the same stories.

Neuman conducted an experiment in 1976 that attempted to "isolate and identify the influence of education, motivation for watching TV news, and general news consumption habits on what and how much is learned from television news viewing" (p. 116). In his study, he made a distinction between aided and unaided recall. He used telephone interviews to measure the level of recall of evening news stories broadcast several minutes up to three hours before the interview. He found that half of his respondents could not recall any story at all. With help, respondents were able to recall on average 4.4 stories with supporting details and an additional 4.3 stories without details. One of Neuman's (1976) central findings was

that the respondents' education level had no influence on recall. Therefore, his study supports the knowledge-leveler role of television (Neuman, 1976).

Based on uses and gratifications theory, Lang's model (2000) states that viewers whose intent is to learn do allocate more resources to the storage subprocess. In contrast, viewers whose intent is to relax allocate fewer resources to storage; thus, they tend to remember less of the message.

People's needs and personal goals can also affect the encoding process. As Lang (2000) suggests, information relevant to individuals is more likely to be selected for encoding into working memory. These characteristics vary not only from culture to culture, but also from person to person according to their context and personal situations.

Therefore, this study also poses the following questions:

RQ₅: How do people's educational levels affect their encoding, storage, retrieval and understanding of televised news reports about the Iraq war?

The extent to which people agree with the American invasion of Iraq can also affect the way the message is processed. Thus, this study also asks:

RQ₆: How do people's attitudes toward the American intervention in Iraq affect their encoding, storage, retrieval and understanding performance?

Following Lang's (2000) recommendation to test the impact of individual characteristics on the three stages of the limited capacity model, this study considers how people's level of involvement with the war affect the way they process information. Thus,

RQ₇: How do people's involvement with the war affect their encoding, storage, retrieval and understanding performance?

CHAPTER III

MATERIALS AND METHODOLOGY

The Iraq war was the most heavily televised war in history. Since the beginning of the so-called Operation Free Iraq on March 20, 2003, cable and TV networks focused their resources on sending journalist equipped with the latest technology to cover the war. Advances in telecommunications made possible daily live reports that, from different locations, delivered information to people's living rooms almost instantaneously. Did this live coverage provide pertinent information to help audiences understand the Iraq war?

The current study attempts to provide evidence about the effects of live and edited newscasts about the Iraq war on viewers' understanding of this conflict.

Experimental Design

Data were gathered through a post-test only experimental design. The objective of the experiment was to determine the relationship between specific incidents in the Iraq war covered live or packaged, and people's understanding of those incidents. This technique, the oldest approach in mass media research, is essential for studies that need more control over the variables and the subjects. According to Robinson and Levy (1986), information processing research is tied to the advantages (and disadvantages) of experimental research that examine TV news comprehension by looking at certain broadcasting guidelines.

The year 2005 marked the second anniversary of the American invasion of Iraq. As such, the experimental stimulus for this study was recreated to approximate the process of viewing a newscast two years ago. Other methods of data collection, like surveys or focus groups, are not appropriate for this study that seeks to provide evidence of causality. Surveys

and interviews are not pertinent as well because audiences will have a difficult time remembering if they saw the information live or as packaged videos. An experiment also avoids external influences or exposure to other sources of information like newspapers or radio.

Sampling

A non-probability volunteer sample of 200 students from communication undergraduate courses at Iowa State University was used as experimental subjects. Classes open to different majors were chosen in order to avoid homogenous and nonequivalent groups. The experiment took place in different class settings. The classes were randomly assigned to one of the two visual treatments. Group 1 was exposed to the live coverage of four incidents that occurred during the war. Group 2, on the other hand, saw edited news packages of the same incidents covered on the tapes shown to Group 1.

Weinstock and Boudreau (2004) explain that young people are not as interested in foreign news as their adult counterparts. According to them, the Iraq war presented an unusual opportunity to examine young adults' media patterns because the conflict provoked "increased [media] attention, especially from younger adults who normally are less attentive to news" (Weinstock et al., 2004, p. 281). Their study found that young adults "relied heavily on television for news about the Iraq war. They not only turned to television for most of their news about the war, but they also saw television as more convenient to use, more credible, and more informative than other media" (p. 285). They added that "young people immediately before and during the Iraq war shared many of the attitudes and preferences held by their parents and older Americans" (p. 286).

A study conducted by the Pew Research Center for the People and the Press (June, 2004) reported that 18% of 18 to 29 year-old Americans follow the nightly network news, and that another 29% prefer cable news. Their findings indicate that network news viewers are aging and that the generation gap in network news viewership is widening. That is not the case for cable news that has made modest gains among 19 to 29 year-old viewers. The Pew Center concludes that “in spite of shifting public preferences, the news remains a central part of Americans’ lives” (2004, p. 7).

Thus, studying how thoroughly TV news are processed can help better understand young viewers’ preferences and TV consumption habits. Along the same lines, it is important to examine how young audiences process information they saw on TV about the Iraq conflict, because as Hoskins (2004) states, the features of reporting war and other events on TV have reached a new intensity: it serves as an archive of social memory. Iowa State University is a strong learning community suitable as a locale for this study. Analyzing how college students process live versus edited news segments can therefore be extremely important to predict patterns of exposure, and to provide some insights into how these viewers understand international conflicts. After all, as Weinstock et al. (2004) explains, “inescapably younger audiences will get older” (p. 288).

The Experimental Stimuli

For the experiment, eight news clips concerning four incidents in the early months of the Iraq war, broadcast between March 24 and April 9, 2003 in the CBS Evening News and the NBC Nightly News, were selected. Because the live and packaged stimuli must have a close correspondence with each other, only matching news segments from the archives were paired. The news clips were retrieved from the video archives of Vanderbilt University. In

the content selection process, news from the beginning and the end of the American invasion of Iraq as well as during other crucial moments of the conflict were avoided because the novelty and importance of these events might overwhelm subjects' responses. Instead, live and edited routine reports were used. In short, this study excluded breaking news reports (Appendix D).

Live reports

Live news were defined as reports of non-breaking events broadcast within the regular newscast through a scheduled direct via satellite connection to the studios. Group 1 was exposed to the following news clips in this order:

1. NBC Nightly News, March 24, 2003. "Third infantry division on the move to Baghdad." (Length: 1 minute, 37 seconds. Reporter: David Bloom traveling with the 3rd Division).
2. NBC Nightly News, March 31, 2003. "Urban resistance in An Najaf, heavy fighting." (Length: 1 minute, 22 seconds. Reporter: Kelly O'Donnell from the central command in Qatar).
3. NBC Nightly News, April 9, 2003. "Celebration, looting and fighting in Baghdad." (Length: 1 minute, 57 seconds. Reporter: Bob Arnot from Baghdad).
4. NBC Nightly News, April 9, 2003. "Engagement between American forces and Iraqi forces in Baghdad" (Length: 2 minutes, 20 seconds. Reporter: Brian Williams, on videophone from Baghdad).

Edited packages

The packaged news reports used in this experiment covered the same topics as the live video clips. Group 2 was exposed to four edited packages in the following order:

1. CBS Evening News, March 24, 2003. "Third Infantry Division continues its march towards Baghdad." (Length: 2 minutes, 25 seconds. Reporter: Jim Axelrod).
2. CBS Evening News, March 31, 2003. "Soldiers engage in urban warfare in Najaf." (Length: 3 minutes. Reporter: Mark Strassman).
3. CBS Evening News, April 9, 2003. "Some sections of Baghdad still unsafe for coalition forces." (Length: 2 minutes, 26 seconds. Reporter: Byron Pitts).
4. CBS Evening News. April 9, 2003. "Widespread looting taking place in Baghdad." (Length: 1 minute, 55 seconds. Reporter: John Roberts).

Procedures

The subjects were asked to read and sign an informed consent form at the beginning of the experiment granting their permission to be a part of the experiment. A copy of the informed consent form is shown in Appendix B.

Before they were exposed to the videos, the respondents answered the first section of a questionnaire that asked about their demographic characteristics, media exposure patterns, the gratifications they derive from watching TV news about the Iraq war, their level of involvement with the Iraq situation, their experience with the war, their attitudes towards the American intervention in Iraq, and their preferences for the style used by TV news programs to report international conflicts. A note at the end of the first part alerted subjects to wait for the experimenter's directions before completing the next part of the questionnaire.

They were then told that a short sequence of television items will be shown for them to view. After exposure to the videotapes, they were given the encoding-recognition test. Six still pictures were projected to test their ability to discriminate images presented in the videos and those that were not. They were then given 12 minutes to complete the second recognition

test which asked for open-ended responses, and to answer eight multiple choice questions about the news clips. The entire experiment lasted half an hour for each group.

The questionnaires were color-coded (yellow for those who saw live reports, and green for those who saw the packaged version) in order to discern which subjects were exposed to live or packaged visual stimuli (Appendix C).

Pre-testing

The experimental design and the questionnaire were pre-tested to ensure the viability of the methodology, the comprehensibility and proper ordering of the questions, as well as the length of the experiment. As Brosius (1989) explained, one of the big problems in developing the instrument for this experimental design is choosing the questions' appropriate degree of difficulty. Questions that are too difficult or too easy can develop bottom or ceiling effects that can mask the effects of experimental factors.

The pretest was conducted with 20 advertising students at Iowa State University. This pretest was extremely helpful in identifying vague questions that may cause subjects to skip them. It also helped evaluate how long it takes for the subjects to complete the questionnaire.

Variables and Measurement

Based on the limited capacity model of information processing developed by Lang (2000), four dependent variables are pertinent to this study:

Encoding or recognition

This task was measured by indexing whether specific bits of information were encoded by asking the subjects to perform two recognition tasks. To measure encoding, subjects were asked to discern which of six still photographs projected on the screen

belonged to or were part of the newscasts. The second recognition task asked them to identify six terms or topics used in the news clips.

Storage or cued recall

Storage is the process of linking newly encoded information into the associative memory network (Lang, 2000). According to Lang, “cued recall can be interpreted as an index of how thoroughly the information was stored” (p. 56).

Operationally, storage was measured by the number of correct answers to eight multiple-choice questions based on information presented in the news clips:

1. The US soldiers’ encountered problems with civilians at (a) the Iraqi border with Kuwait, (b) military checkpoints in urban neighborhoods, (c) government buildings, (d) don’t know.
2. When the Marines entered Baghdad, they were threatened with (a) chemical weapons, (b) gunfire and grenades, (c) they were not threatened at all, (d) don’t know.
3. In the video, where did the Americans encounter the biggest resistance? (a) Qatar, (b) Nasiriyah, (c) An Najaf, (d) don’t know.
4. Advancing towards Baghdad, the Mechanized Infantry Division (a) encountered some sporadic gunfire, (b) did not encounter major problems, (c) engaged in several battles, (d) don’t know.
5. Where were people celebrating the toppling of Saddam Hussein’s statue? (a) At a city center in downtown Baghdad, (b) around the Baghdad neighborhoods, (c) there was no celebration; they were still at war, (d) don’t know.

6. What did the US commanders order the soldiers to do after the incidents south of Baghdad? (a) Be cautious before opening fire, (b) open fire to potentially dangerous targets, (c) do not enter the cities, (d) don't know.
7. Although looting was happening all over Baghdad, Iraqi officials did not stop the looters at all. Why was this the case? (a) Because they were protected by American soldiers, (b) Because Iraqi police officers were not able to control the crowd, (c) Because there was no government or police control, (d) don't know.
8. What is the name and destination of the armored mechanized unit shown in the videos? (a) 3rd Infantry Division moving toward Baghdad, (b) 3rd Airborne Division moving toward An Najaf, (c) 101st Marines moving toward Basra, (d) don't know.

Retrieval or free recall

Following Lang's (2000) limited capacity model, the retrieval process can be measured by free recall; that is, "how well a subject can retrieve a piece of information without any cues at all" (p. 56). Retrieval was operationalized by asking subjects two open-ended questions:

1. What was happening in Baghdad as shown in the news clips?
2. According to the news clips you saw, what was happening to the 3rd Infantry Division on its way to Baghdad?

To measure retrieval, the correct number of responses to these questions was ascertained.

Understanding

The sum of the first three dependent variables (encoding, storage, retrieval) was used as the measure of understanding. Based on Lang's (2000) model, understanding can be

predicted by taking into account how well a message was encoded, stored and retrieved. Thus, understanding is encoding, storage and retrieval combined.

Intervening Variables

The first section of the questionnaire asked for the subjects' demographic information: age, gender, year in college and major field of study. It also measured their media exposure patterns by asking how often they use the Internet for news, how often they read news magazines, watch television news, read a daily newspaper and listen to the news on the radio. The responses to these five-point Likert scales were always, regularly, sometimes, hardly ever and never.

Lang (2000) highlights the importance of individual characteristics to fully understand how people process mediated information. The gratifications subjects get from watching news about Iraq, their involvement with the conflict, their experience with the war, their attitudes toward the American invasion of Iraq, and their preferred style of reporting international conflicts on TV were also included in the analysis as intervening or confounding variables.

Gratifications sought and obtained from TV news about Iraq

The gratifications people seek from TV news viewing specific to the Iraq war was measured based on Palmgreen, Werner and Rayburn's (1980) gratifications sought and obtained scales. As their model proposes, gratifications sought can be categorized into four functions: general information seeking, decisional utility, entertainment, and interpersonal utility. Furthermore, the gratifications people seek were classified as either active or passive. The sum of general information seeking and decisional utility gratifications is the measure of active gratifications. The responses to entertainment and interpersonal utility statements

formed the passive gratifications index. Operationally, they were evaluated by asking the following question:

1. The following are reasons why people watch TV news. Please indicate the extent to which the reason applies to you on a scale of 1 to 5 where 1 means “it does not apply at all” and 5 means “very definitely applies.”

Active gratifications

General information seeking:

1. I watch TV news because I trust the information they give me about Iraq.
2. I watch TV news to keep up with current issues and events in Iraq.

Decisional utility:

1. I watch TV news to find out what the US is doing to improve the situation in Iraq.
2. I watch TV news to find out issues affecting the Iraqi people.
3. I watch TV news to make up my mind about important questions concerning Iraq.

Passive Gratifications

Entertainment:

1. I watch TV news because it is often entertaining.
2. I watch TV news because it is often dramatic.
3. I watch TV news because it is often exciting.

Interpersonal utility:

1. I watch TV news to find interesting things to talk about regarding the situation in Iraq with others.
2. I watch TV news to support my own viewpoints about the situation in Iraq.

3. I watch TV news so I can pass on the information I learned about the situation in Iraq to others.

The scale items were presented to the subjects randomly ordered and without the categorical headings.

Involvement with the Iraqi situation

The subjects' involvement with the war was operationalized by asking them to evaluate how involved, concerned and interested they were with the conflict in Iraq. The following questions were asked:

1. How interested are you about the situation in Iraq? Response items: Extremely interested, very interested, fairly interested, a little bit interested, not at all interested.
2. How involved are you with the situation in Iraq? Response items: Extremely involved, very involved, fairly involved, a little bit involved, not at all involved.
3. How concerned are you with the situation in Iraq? Response items: Extremely concerned, very concerned, fairly concerned, a little bit concerned, not at all concerned.

Experience with the conflict

Experience with the conflict was measured by the subjects' responses to these two questions:

1. Do you have a friend or a family member serving in Iraq? Response items: Yes No.
2. Do you have any personal experience with the conflict in Iraq? Response items: Yes No.

Attitudes toward the American invasion of Iraq

This concept was operationalized by asking the extent to which subjects agree with the following five statements on a scale of 1 to 5 where 1 means “strongly disagree” and 5 means “strongly agree.”

1. I am in favor of the American invasion of Iraq.
2. The US has no business being in Iraq.
3. The US is doing its best to bring democracy to Iraq.
4. The US invasion of Iraq will strengthen America’s role as a superpower.
5. Americans are already paying too much for the Iraqi invasion.

Preference for the style of reporting

This study also asked subjects their opinion about how international conflicts should be covered by television news. This question was asked before and after exposure to the videos to determine whether the subjects changed their opinion after being exposed to the stimuli. To measure preference, subjects were asked: In your opinion, how should TV news about international conflicts be covered? (a) Interrupt the regular programming for live coverage, (b) Give journalists time to compile and edit audio-visual and text materials, (c) Show live coverage during regular newscasts, (d) No preference.

Research Questions

This study poses several research questions based on the limited capacity model of information processing explored in previous chapters.

RQ₁: Is there a difference in the *encoding* performance between viewers exposed to live reports versus the packaged news of early episodes of the American invasion of Iraq?

RQ₂: Is there a difference in the *storage* of information performance between viewers exposed to live reports versus packaged news of early episodes of the American invasion of Iraq?

RQ₃: Is there a difference in the *retrieval* of information performance between viewers exposed to live reports versus packaged news of early episodes of the American invasion of Iraq?

RQ₄: Is there a difference in *understanding* levels between viewers exposed to live reports versus packaged news of early episodes of the American invasion of Iraq?

To determine whether there is any difference between the two groups on the three subprocesses of the limited capacity model and understanding, four separate t-test on means were conducted.

This study also tests the impact of individual characteristics on the different variables. Thus:

RQ₅: How does *involvement* with the Iraqi conflict affect the encoding, storage, retrieval and understanding processes?

RQ₆: Does *personal experience* with the conflict influence any of the subprocesses of the limited capacity model as well as understanding?

RQ₇: Do the *gratifications* people derive from watching TV news about Iraq affect the processes of encoding, storage, retrieval and understanding?

RQ₈: How do people's *attitudes* toward the American invasion of Iraq affect their levels of encoding, storage, retrieval and understanding?

RQ₉: How do people's *educational level* and *age* affect encoding, storage, retrieval and understanding of TV news related to the Iraq war?

RQ₁₀: Do people's reported level of *exposure to news* affect encoding, storage, retrieval and understanding of TV news related to the Iraqi situation?

The level of involvement, experience with the war effort in Iraq, gratifications obtained from watching TV news that feature Iraq, attitudes about the war and news exposure were measured using five separate composite indexes. Therefore, to test if there is a relationship between these confounding variables and the subprocesses of the limited capacity model and understanding, Pearson correlation and multiple linear regression tests were conducted.

To account for the influence of demographic variables, the following research questions were also asked:

RQ₁₁: Does *gender* make a difference in how subjects encoded, stored, retrieved and understood the information? A t-test on means was conducted to determine whether such differences exist.

RQ₁₂: Did the subjects change their opinion about how international news should be covered on TV after they were exposed to the stimuli?

Because the subjects' preferences are nominal variables and the question was asked twice in the same questionnaire, a sign test for changes was conducted.

The relationships between age, year in college and encoding, storage, retrieval and understanding scores were also tested using Pearson correlation and multiple linear regression tests.

CHAPTER IV

RESULTS

This study was conducted to evaluate the impact of two modes of presenting news, live versus packaged reports, on television viewers' understanding of incidents that occurred during the 2003 American intervention in Iraq. It also aims to provide some insights on the influence of attitude about the intervention, level of involvement with the war, experience with the war, age, and news exposure on the three different levels of information processing (encoding, storage and retrieval) proposed by Lang (2000).

The Sample

The subjects were obtained from a volunteer sample of undergraduate students in three different lower-level journalism and communication classes that were open to different majors. Group 1, which consisted of 117 subjects, was exposed to live news reports. Group 2, composed of 83 subjects, was exposed to news reports that were edited or packaged according to traditional journalistic procedures.

Of the 200 subjects, 65 were male (32.8%) and 133 were female (67.2%). The subjects were 18 to 34 years old (mean= 19.98 years old), most of whom were sophomores. The three age outliers in the sample were not included in the analysis (Table 4.1).

Table 4.1. Subjects' demographic characteristics (N=200).

		Number	Valid Percent
Age (years)			
	18	25	12.6
	19	66	33.3
	20	49	24.7
	21	35	17.7
	22	13	6.6
	23	3	1.5
	24	4	2.0
	25	1	.5
	28	1	.5
	34	1	.5
Gender			
	Male	65	32.8
	Female	133	67.2
Academic classification			
	Freshman	70	35.0
	Sophomore	58	29.0
	Junior	43	21.5
	Senior	29	14.5

Of the 200 subjects, 60 (31.8%) were journalism majors and 23 (12.2%) declared advertising as their major. The rest were majors in agricultural communication, agricultural education, business, art and design, and 28 other academic areas of specialization. Ten of the subjects (5.3%) did not declare their major area of study.

Exposure to news

The subjects were asked the extent to which they are exposed to news on the Internet, radio, TV, magazines and newspapers based on a scale of 1 to 5, where 1 means "never" and 5 means "always." The subjects reported they mostly get their news from a daily newspaper (mean= 3.73, SD= .86), TV (mean= 3.38, SD= .84) and the Internet (mean= 3.34, SD= .91). The least frequently cited news sources were magazines (mean= 2.64, SD= .83) and radio (mean = 2.43, SD= .96).

Gratifications obtained from watching TV news about Iraq

When asked what gratifications they derive from watching TV news, the subjects reported they mostly watch to keep up with current issues and events in Iraq (mean= 3.20, SD= 1.30) and to find out what the US is doing to improve the situation in Iraq (mean= 2.99, SD= 1.07). Some say they watch TV news because it is often entertaining (mean= 1.74, SD= .84) and because it is often dramatic (mean= 1.89, SD= .88). These two were the least frequently cited reasons for watching TV news about the Iraqi situation. The gratifications scores were calculated based on responses to a scale of 1 to 5 where 1 means “does not apply” and 5 means “very definitely applies” (Table 4.2).

Table 4.2. Gratifications obtained from watching TV news about the Iraqi conflict (N=200).

	Mean ^a	Standard deviation
Because it is exciting	2.09	.98
Because I trust the information	2.44	.99
To find out what the US is doing	2.99	1.07
Because it gives me topics to talk about with others	2.23	1.01
Because it is entertaining	1.75	.84
To support my viewpoints	2.52	1.16
To make up my mind about issues	2.82	1.22
To pass information onto others	2.40	1.12
To find out issues about Iraqi people	2.69	1.23
Because it is often dramatic	1.89	.88
To keep up with current events	3.20	1.30

^aMeans were computed based on responses to a scale of 1 to 5, where 1= does not apply to me and 5= very definitely applies to me.

Experience and involvement with the Iraqi situation

Of the 200 subjects, 80 (41.5%) reported having a friend or a family member serving in Iraq while 113 (58.5%) reported not knowing anybody serving in Iraq. Nine subjects (4.7%) reported having some personal experience with the ongoing conflict.

When asked how interested they were on the conflict, the subjects said they were fairly interested in the Iraqi situation (mean=3.05, SD=.93). Furthermore, they also acknowledge feeling a little bit involved with the conflict (mean= 1.86, SD= .82) and being fairly concerned with what is going on in Iraq (mean=3.31, SD=.96). These involvement scores were computed based on scales whose response items range from 1 to 5, where 1 is not at all involved, interested or concerned and 5 is extremely involved, interested or concerned.

Attitudes toward the Iraqi situation

Seventy-seven of the 200 subjects (38.5%) reported being in favor of the American invasion of Iraq, and 94 (47.2%) disagreed with the statement that the US had no business in Iraq. Furthermore, 96 of the subjects (48%) thought the US is doing its best to bring democracy to Iraq, 81 (40.5%) did not think that the invasion of Iraq will strengthen America's role as a superpower, and 111 (55.5%) thought that Americans are already paying too much for the Iraqi intervention (Table 4.3).

Table 4.3. Attitudes toward the Iraqi situation (N=200).

	Mean ^a	Standard Deviation
I am in favor of the US invasion of Iraq.	2.92	1.35
The US has no business being in Iraq.	2.67	1.30
The US is doing its best to bring democracy to Iraq.	3.43	1.154
The US invasion of Iraq will strengthen America's role as a superpower.	2.74	1.10
Americans are already paying too much for the Iraqi invasion.	3.59	1.11

^aMeans were computed based on responses to scales where the response items range from 1 to 5 (1= strongly disagree, 3= neutral and 5= strongly agree).

Answering the Research Questions

RQ₁: Is there a difference in encoding among TV news viewers exposed to live reports versus packaged news?

The dependent variable in this research question is encoding, the first stage in the information processing model proposed by Lang (2000). Encoding is the first of the three subprocesses of information processing that involves getting the message out of the environment (in this case, out of the screen) and into a person's brain (Lang, 2000).

The independent variable, live versus edited news presentations, refers to the style of reporting the news, this study's two experimental stimuli. The stimuli were coded (1) for live reports and (2) for edited news packages.

To measure encoding, subjects were asked whether they were able to recognize six images shown and six terms mentioned in the news clips they had just seen. Responses to a total of 12 items were coded as either wrong (0) or correct (1); a "don't know" answer was coded (0). Encoding is the sum of all correct responses to the 12 items; the scores ranged from 0 to 12.

The hypothesis that the mode of reporting (live versus packaged) affected encoding was tested using an independent samples t-test. Assuming equal variances, the results of this test (Table 4.4) indicate that the difference between Group 2, shown the packaged news version (mean= 7.61, SD= 2.47), and Group 1, shown live reports (mean= 8.12, SD= 2.03), was not statistically significant ($t = 1.583$, $p = .115$, $df = 195$) at the .05 level. The hypothesis, therefore, was not supported.

Table 4.4. Independent samples t-test testing differences in encoding between live news and packaged news viewers.

Groups	N	Mean ^a	Standard deviation	T	Df	Sig. (2-tailed)	Mean difference
Live Group 1	114	8.1228	2.02699	1.583	195	.115	.5083
Packaged Group 2	83	7.6145	2.47343				

^aMeans were derived using the sum of correct answers to a 12-item test.

Consequently, there is no evidence to support the hypothesis that those who were shown live reports and those who saw packaged news differed in encoding, the first subprocess of the information processing model. According to Lang (2000), encoding is extremely related to the extent to which the message engages people's sensory receptors. The results suggest that live coverage of non-breaking news and packaged news of the same topic do not make a difference in encoding. Since the Iraqi situation often led news broadcast for at least two years, it is likely that viewers no longer consider information coming out of that country novel enough to affect their sensory receptors and encoding, regardless of the style of reporting (live or edited). The result may have been due to the fact that the events in the news clips did not give the report the novelty value that could affect viewer's orienting responses.

In addition, the limited capacity model posits that the initial process of encoding is not a simple, linear stage. In fact, "the initial passage from environmental stimulus to mental representation [*encoding*] is conceived of as being complex, idiosyncratic, and inexact," (Lang, 2000, p. 48) largely driven by unintentional and intentional selection processes.

RQ₂: Is there a difference in storage among TV news viewers exposed to live reports versus edited packaged videos?

Storage is the second stage of Lang's (2000) model, defined as the subprocess of linking newly encoded information to previously encoded ones. To measure how thoroughly the information was stored in the minds of TV news viewers, an index of eight multiple-choice questions from the topics shown in the news clips was developed. The responses were coded as incorrect (0) or correct (1). Storage was operationalized by adding the subjects' correct responses to the quiz, thus giving a knowledge score that ranged from 0 to 8.

In order to test if there is a difference between viewers who were exposed to live news and those shown the edited news packages in terms of storage, an independent samples t-test was performed. Assuming equal variances, the results of the test (Table 4.5) indicate that the differences between the two groups in terms of stored information were not statistically significant ($t = .990$, $p = .324$, $df = 185$) at the .05 level. The hypothesis, therefore, was not supported.

Table 4.5. Independent samples t-test testing differences in storage between live news and packaged news viewers.

Groups	N	Mean ^a	Standard deviation	T	Df	Sig. (2-tailed)	Mean difference
Live Group 1	112	4.38	1.49	.699	185	.486	-.1627
Packaged Group 2	75	4.55	1.66				

^aMeans were determined based on responses to 8 knowledge items.

The findings suggest that the style of news presentation did not make a difference in how individuals linked what they get from TV news and their own existing schemas. The two

groups did not differ in the amount of information stored from watching the news segments. This might be because in the process of storing information, individual preferences or needs also play crucial roles.

RQ₃: Is there a difference in retrieval among TV news viewers exposed to live reports versus edited packaged videos?

Retrieval is the final subprocess of the information-processing model, which involves “reactivating a stored mental representation of some aspects of the message” (Lang, 2000, p. 50). Retrieval was measured by analyzing the subjects’ open-ended responses to two questions: “What was happening in Baghdad as shown in the news clips?” and “According to the news clips, what was happening to the 3rd Infantry Division on its way to Baghdad?” The subjects’ open-ended responses to both questions had to identify three topics from the news clips to get a general sense of what they understood from the newscasts. The responses were coded as wrong or don’t know (0), only one topic identified (1), two topics were identified (2) and all three topics were identified (3). To operationalize retrieval, the scores to these two questions were added, producing scores that ranged from 0 to 6.

Do TV news viewers exposed to live reports differ from those who saw edited packages in terms of retrieval? An independent samples t-test was conducted to answer this question. The results indicate that the two groups did not differ significantly in their retrieval scores ($t = .990$, $p = .324$, $df = 163$) (Table 4.6). Therefore, the hypothesis was not supported.

Table 4.6. Independent samples t-test testing differences in retrieval between live news and packaged news viewers.

Groups	N	Mean ^a	Standard deviation	T	Df	Sig. (2-tailed)	Mean difference
Live Group 1	94	1.56	1.14	.990	163	.324	-.1686
Packaged Group 2	71	1.73	1.00				

^aMeans were computed based on the information richness of open-ended responses scored 0 to 6.

The limited capacity model highlights how the nature of TV viewing imposes constraints on retrieval capacity. In this case, the viewers were prompted to retrieve information after exposure to the two-minute news clips. As the results show, the low retrieval scores were not due to the type of news presentation but may be to viewers' previous knowledge of the issue. Other message attributes may also be able to explain this non-significant difference.

RQ4: Is there a difference in understanding among TV news viewers exposed to live reports versus those shown edited packaged news?

Understanding was measured by adding the scores gained from the three subprocesses, encoding, storage, and retrieval. The aggregated scores ranged from 0 to 26 points.

Do those exposed to live reports differ in terms of understanding from those who saw the edited news clips? An independent samples t-test was performed to answer this question. Assuming equal variances, the results of this test (Table 4.7) show that those shown live reports (mean= 8.12, SD= 2.03) and those shown the packaged versions (mean= 7.61, SD=

2.47) did not differ significantly in their understanding levels ($t = 1.583$, $p = .115$, $df = 195$).

This hypothesis was also not supported.

Table 4.7. Independent samples t-test testing differences in understanding between live news and packaged news viewers.

Groups	N	Mean ^a	Standard deviation	T	Df	Sig. (2-tailed)	Mean difference
Live Group 1	114	8.12	2.03	1.583	195	.115	.5083
Packaged Group 2	83	7.61	2.47				

^aMeans were computed based on aggregated scores of encoding, storage and retrieval. The range of responses is 0 to 26 points.

Thus, the mode of news presentation (live versus packaged reports) did not affect viewers' understanding of the Iraq war episodes shown. Message attributes and individual needs, goals, uses and knowledge might have accounted for this non-significant difference. Low levels of understanding might have also resulted from the fact that the three subprocesses were performed in a seemingly cursory manner, judging from the middling scores in all three stages. Lang (2000) cautions that similar situations are indeed very common results of the television viewing experience:

“Any of these subprocesses -encoding, storage, or retrieval- can be performed in a cursory or a thorough manner. How thoroughly a subprocess is performed and how many resources are allocated affect the likelihood that subsequent or concurrent subprocesses will be performed thoroughly” (p. 50).

According to Lang (2000), there are two main reasons why messages are not thoroughly processed. These are: (1) the viewer may choose to allocate fewer resources to the task or that (2) the message may require more resources than the viewer has available. The findings imply that either news about the events in Iraq were presented in such a way

that the viewers needed to allocate more resources to learn from them or that they chose to allocate fewer resources to the processes, regardless of whether the news were presented live or edited.

Relationship between the three information-processing subprocesses

The limited capacity model postulates that the three subprocesses (encoding, storage and retrieval) are related to each other, although processing resources can be independently allocated to one of the three subprocesses.

To examine if indeed the three subprocesses and their combined total, understanding, are related to each other, a Pearson correlation test was performed.

The results (Table 4.8) show a significant relationship between the level of encoding and storage ($r = .348$, $p = .000$). Lang (2000) predicts that sometimes encoding and storage can limit each other's effect in such a way that if a lot of resources are focused on the encoding process, fewer ones could be allocated to storage, thus causing a loss of information. If such is the case, the significant correlation between these two subprocesses suggests they are canceling each other out, which may help explain the results derived from the previous t-tests. In addition, the correlation between encoding and the last stage of the model, retrieval, was not statistically significant ($r = .063$, $p = .428$).

Storage and encoding were found to be positively correlated and that this correlation is statistically significant ($r = .348$, $p = .000$) (Table 4.8). This provides evidence that the "human brain can, and usually does, engage in all these processes simultaneously" (Lang, 2000, p. 47). Furthermore, the correlation test show a significant positive correlation between storage and retrieval ($r = .224$, $p = .005$), indicating that the process of retrieval is very much

related to the information networks in the viewer's mental maps. These neural maps are activated during the process of storing information (Table 4.8).

All the three subprocesses were significantly related to understanding, indicating the origins of this dependent variable (Table 4.8).

Table 4.8. Pearson correlation coefficients showing the relationships between the three subprocesses of the limited capacity model and understanding.

	Encoding	Storage	Retrieval	Understanding
Encoding				
Pearson Correlation	1	.348	.063	.800
Sig. (2-tailed)	.	.000	.428	.000
N	197	185	163	153
Storage				
Pearson Correlation	.348	1	.224	.684
Sig. (2-tailed)	.000	.	.005	.000
N	185	187	155	153
Retrieve				
Pearson Correlation	.063	.224	1	.492
Sig. (2-tailed)	.428	.005	.	.000
N	163	155	165	153
Understanding				
Pearson Correlation	.800	.684	.492	1
Sig. (2-tailed)	.000	.000	.000	.
N	153	153	153	153

According to the limited capacity model, the selection of information mechanisms can account for individual choices that have to do with what parts of the message are relevant to the individual as well as choices related to message structure and novelty factors. The following research questions examined the effects of demographic, psychographic and media-related variables on the three subprocesses of the limited capacity model as well as on

understanding. Of these, involvement with the conflict, experience with the war, and attitudes toward the American invasion of Iraq were considered individual psychographic characteristics. News exposure and gratifications derived from watching TV news about Iraq were the media-related variables. Educational level, age and gender were the demographic factors predicted to make a difference in the way the subjects process broadcast information.

RQ₅: How does people's involvement with the Iraq war affect their encoding, storage, retrieval and understanding processes?

According to Lang (2000), "how many of the remaining resources are allocated to storage will be primarily dependent on the goals and needs of the individual" (p. 53). Based on this assumption, the subjects' level of involvement with the war was examined to determine its influence on the three model subprocesses and understanding.

To measure involvement, an index was created by combining the responses to three questions that asked subjects to evaluate how involved, concerned and interested they were about the Iraqi situation. A reliability analysis of the index produced an alpha of .8001, which suggests that the involvement index was reliable.

A Pearson correlation test was conducted to evaluate if there is any relationship between involvement and the different stages of information processing as well as understanding. The results of the correlation test show a positive but not significant relationship between encoding and involvement ($r=.041$, $p=.569$). However, there was a positive significant relationship between storage and involvement ($r=.187$, $p=.016$) and between involvement and retrieval ($r=.187$, $p=.016$). The relationship between understanding

and involvement with the conflict was positive but not statistically significant ($r=.157$, $p=.053$) (Table 4.9).

Table 4.9. Pearson correlation coefficients between involvement with the conflict in Iraq, the three subprocesses of the limited capacity model, and understanding.

	Encoding	Storage	Retrieval	Understanding
Involvement				
Pearson Correlation	.041	.195	.187	.157
Sig. (2-tailed)	.569	.008	.016	.053
N	196	186	164	152

Thus, those who feel more involved in the Iraqi situation exhibited higher levels of storage and retrieval. This may be because individuals that feel involved, interested or concerned with the war have deeper associative networks that are activated by Iraq-related news reports, resulting in more easily stored and retrieved information. Such a process can also lead to the “simultaneous activation of old and new information” in both processes (Lang, 2000, p. 50).

A related psychographic variable that may influence the subprocesses of the limited capacity model is personal experience with the conflict in Iraq.

RQ₆: Does personal experience with Iraq influence any of the subprocesses of the information processing model as well as understanding?

The sum of the responses to two questions that asked subjects if they knew anybody serving in Iraq and if they had any personal experience with the Iraqi situation measured experience. A Pearson correlation test was employed to evaluate whether personal experience is related to the three different subprocesses and to people’s understanding of television news

about Iraq. The findings show no statistically significant relationship between experience and the four variables (Table 4.10).

Table 4.10. Pearson correlation coefficients between experience with the Iraq war, the three subprocesses of the limited capacity model, and understanding.

	Encoding	Storage	Retrieval	Understanding
Experience				
Pearson Correlation	.042	-.026	-.007	-.007
Sig. (2-tailed)	.562	.730	.928	.935
N	189	179	158	146

As these results show, subjects' personal experience with the Iraqi conflict was not associated or does not vary with the three model subprocesses.

This study also examined the gratifications people derive from watching TV news about the Iraqi situation to ascertain how they might have affected people's encoding, storage, retrieval and understanding.

RQ7: Do the gratifications people derived from watching TV news about the Iraq war affect the process of encoding, storage, retrieval as well as understanding?

The gratifications the subjects get from TV news about the Iraqi conflict were measured using Palmgreen, Wenner, and Rayburn's (1980) gratifications sought and gratifications obtained scales. Utilizing the original scales, an index of 11 statements was created. A reliability analysis of the index produced an alpha of .9001, which indicates that this index is highly reliable.

The 11-item index was divided into two gratifications categories: those that were obtained by passively looking for information and the gratifications obtained by those who

actively seek information. The index for passive gratifications was developed by combining the six statements related to entertainment, interpersonal utility and para-social interaction. A reliability analysis of the index produced an alpha of .8244. The active gratifications index was created using the five statements related to general information seeking and decisional utility. The index was found to be reliable (alpha= .8790).

Is there a relationship between obtaining active gratifications and the different stages of information processing and understanding? The Pearson correlation results show no significant relationship between encoding and the gratifications sought by active information seekers ($r = .030$, $p = .679$). However, such gratifications were positively and significantly related to the subprocess of storage ($r = .325$, $p = .000$), but not with retrieval ($r = .116$, $p = .138$) nor understanding ($r = .141$, $p = .082$) (Table 4.11).

Table 4.11. Pearson correlation coefficients showing the relationship between active gratifications sought, the three subprocesses of the limited capacity model, and understanding.

	Encoding	Storage	Retrieval	Understanding
Active gratifications sought				
Pearson Correlation	.030	.325	.116	.141
Sig. (2-tailed)	.679	.000	.138	.082
N	196	186	164	152

A correlation test was also conducted to find out if there is a relationship between the gratifications passively sought, the three information processing stages, and understanding. The results of the Pearson correlation test did not show a significant relationship between the gratifications obtained by passive seekers and encoding ($r = .024$, $p = .740$). However, the findings did show a significant relationship between storage and gratifications obtained from

passive information seeking ($r = .318$, $p = .000$), but not with the subprocess of retrieval ($r = .034$, $p = .668$) and understanding ($r = .107$, $p = .190$) (Table 4.12).

Table 4.12. Pearson correlation coefficients showing the relationships between passive gratifications sought and the three subprocesses of the limited capacity model and understanding.

	Encoding	Storage	Retrieval	Understanding
Passive gratifications sought				
Pearson Correlation	.024	.318	.034	.107
Sig. (2-tailed)	.740	.000	.668	.190
N	196	186	164	152

The results indicate that there is an associative network activated even by passive viewing. Lang (2000) explains that some stimuli may cause an automatic allocation process in individuals. Viewers who normally seek passive gratifications may have activated similar automatic processes when they store information. As such, there is evidence to support the assertion that individual differences are important to enhance storage capacity.

RQ₇: How do people's attitudes toward the American invasion of Iraq affect their encoding, storage, retrieval and understanding of TV news related to the conflict?

An attitude index was created by combining subjects' responses to five statements that asked them to indicate the extent to which they agree with the American invasion of Iraq. A reliability analysis of the index produced an alpha of .8921.

A Pearson correlation test was conducted to determine whether there is a relationship between the three subprocesses, understanding and attitudes towards the American invasion of Iraq. The results show no significant correlations between subjects' attitudes and

encoding, ($r=-.060$, $p=.408$), storage ($r=.044$, $p=.549$), retrieval ($r=-.095$, $p=.227$), or understanding ($r=-.052$, $p=.524$) (Table 4.13).

Table 4.13. Pearson correlation coefficients showing the relationship between people's attitudes towards the American invasion of Iraq and the three subprocesses of the limited capacity model and understanding.

	Encoding	Storage	Retrieval	Understanding
Attitudes towards the conflict				
Pearson Correlation	-.060	.044	-.095	-.052
Sig. (2-tailed)	.408	.549	.227	.524
N	194	184	164	152

Thus, one can say that attitude toward the Iraqi conflict is not related to the way people processed the information presented.

RQ₈: How do people's educational level and age affect encoding, storage, retrieval and understanding of TV news related to the Iraqi conflict?

A Pearson correlation test was performed to determine if there is a relationship between encoding, storage, retrieval, understanding and subjects' year in college. The results show a significant correlation between year in college and retrieval ($r=.162$, $p=.038$) and with understanding ($r=.188$, $p=.020$), but not with encoding ($r=.065$, $p=.365$) or storage ($r=.078$, $p=.289$) (Table 4.14). Thus, those with higher level of education scored higher in the retrieval and understanding.

Table 4.14. Pearson correlation coefficients showing the relationships between year in college and the three subprocesses of the limited capacity model and understanding.

	Encoding	Storage	Retrieval	Understanding
Year in college				
Pearson Correlation	.065	.078	.162	.188
Sig. (2-tailed)	.365	.289	.038	.020
N	197	187	165	153

Viewers that have more knowledge about the situation in Iraq performed better in the retrieval and understanding stages. Lang's (2000) model describes this possibility and explains that if the person knows little about the topic, the retrieval of old information may require many resources, which may limit the viewer's ability to learn new information.

To complement these results, a Pearson correlation test was performed to find out if there is a relationship between people's age and encoding, storage, retrieval and understanding. There were no significant results between age and encoding ($r = .005, p = .943$), age and storage ($r = .028, p = .703$), age and retrieval ($r = .145, p = .067$) or understanding ($r = .087, p = .294$) (Table 4.15). Age, therefore, did not co-vary with the three subprocesses of the limited capacity model and understanding.

Table 4.15. Pearson correlation coefficients showing the relationships between age and the three subprocesses of the limited capacity model and understanding.

	Encoding	Storage	Retrieval	Understanding
Age				
Pearson Correlation	.005	.028	.145	.087
Sig. (2-tailed)	.943	.703	.067	.294
N	193	183	161	149

RQ₉: Do people's exposure to news affect their encoding, storage, retrieval and understanding of TV news about the American invasion in Iraq?

To answer this question, an index was created by combining the responses to five questions that asked the subjects how often they watch, read, or listen to mediated news. A Pearson correlation test was then performed to determine whether there is a relationship between exposure to news and encoding, storage, retrieval and understanding.

The results show a positive and significant correlation between news exposure and storage ($r = .250$, $p = .001$) and exposure and understanding ($r = .252$, $p = .002$), but none with encoding ($r = .034$, $p = .633$) or retrieval ($r = .124$, $p = .115$). Thus, the more people use their associative mental networks, the more information is stored (Table 4.16).

Table 4.16. Pearson correlation coefficients showing the relationships between exposure to news and the three subprocesses of the limited capacity model and understanding.

	Encoding	Storage	Retrieval	Understanding
Exposure to news				
Pearson Correlation	.034	.250	.124	.252
Sig. (2-tailed)	.633	.001	.115	.002
N	196	184	164	152

Does gender make a difference in terms of the way televised news are processed? The hypothesis that gender affects encoding, storage, retrieval and understanding was tested using an independent samples t-test. The results (Table 4.17) indicate significant differences between males (encoding mean = 9.00, SD = 1.86; storage mean = 5.00, SD = 1.33; retrieval mean = 1.92, SD = 1.05, and understanding mean = 16.04, SD = 2.45) and females (encoding mean = 7.34, SD = 2.20; storage mean = 4.16, SD = 1.59; retrieval mean = 1.47, SD = 1.05, and understanding mean = 13.28, SD = 3.17) in all the three subprocesses of the limited capacity

model, assuming equal variances. Therefore, gender does play a role in the way people process information. In all three stages, males outperformed the females. The same is true for the combined three stages that result to understanding. Males, therefore, scored higher in encoding, storage, retrieval and understanding.

Table 4.17. Independent samples t-test testing the differences in the three subprocesses of the limited capacity model and understanding between males and females.

Groups	N	Mean	Standard deviation	T	Df	Sig. (2-tailed)	Mean difference
ENCODING ^a							
Male	64	9.00	1.86	5.177	193	.000	1.6565
Female	131	7.34	2.20				
STORAGE ^b							
Male	60	5.00	1.33	3.535	183	.001	.8400
Female	125	4.16	1.59				
RETRIEVAL ^c							
Male	60	1.92	1.05	2.652	161	.009	.4506
Female	103	1.47	1.05				
UNDERSTANDING ^d							
Male	55	16.04	2.49	5.538	149	.000	2.76
Female	96	13.28	3.17				

^aMeans were derived using the sum of correct answers to a 12-item index.

^bMeans were determined based on responses to 8 knowledge items.

^cMeans were computed based on the information richness of open-ended responses, scored 0 to 6.

^dMeans were computed based on aggregated scores of encoding, storage and retrieval. The range of responses is 0 to 26 points.

But did males and females exposed to live news and edited news packages differ in terms of how they performed the three subprocesses of the limited capacity model and understanding?

The results (Table 4.18) of an independent samples t-test conducted to answer this question indicate significant differences between males (encoding mean= 8.62, SD= 2.01;

storage mean= 4.87, SD= 1.32; retrieval mean= 1.97, SD= 1.22; understanding mean= 15.63, SD= 13.21) and females exposed to live reports (encoding mean= 7.79, SD= 1.97; storage mean= 4.08, SD= 1.51; retrieval mean= 1.22, SD= 1.02; understanding mean= 13.21, SD= 3.06) in all the three subprocesses of the limited capacity model, assuming equal variances.

For males and females that saw the edited version, the same significant differences were true in the encoding (males' mean= 9.72, SD= 1.28; females' mean= 6.81, SD= 2.36), storage (males' mean= 5.25, SD= 1.33; females' mean= 4.26, SD= 1.71), and understanding (males' mean= 16.75, SD= 1.94; females' mean= 13.36, SD= 3.33) processes. However, males and females who saw the packaged version did not differ significantly in their retrieval performance (males' mean= 1.81, SD= .93; females' mean= 1.73, SD= 1.02) (Table 4.19).

The results indicate that both males and females shown the edited reports demonstrated higher levels of encoding, storage and understanding.

Table 4.18. Independent samples t-test testing the differences in the three subprocesses of the limited capacity model and understanding between males and females exposed to live news

Groups	N	Mean	Standard deviation	T	Df	Sig. (2-tailed)	Mean difference
ENCODING ^a							
Male	42	8.62	2.01	2.148	111	.034	.83032
Female	71	7.79	1.97				
STORAGE ^b							
Male	40	4.87	1.32	2.765	109	.007	.79049
Female	71	4.08	1.51				
RETRIEVAL ^c							
Male	39	1.97	1.11	3.376	91	.001	.75214
Female	54	1.22	1.02				
UNDERSTANDING ^d							
Male	35	15.63	2.69	3.786	85	.000	2.41703
Female	52	13.21	3.06				

^aMeans were derived using the sum of correct answers to a 12-item index.

^bMeans were determined based on responses to 8 knowledge items.

^cMeans were computed based on the information richness of open-ended responses, scored 0 to 6.

^dMeans were computed based on aggregated scores of encoding, storage and retrieval. The range of responses is 0 to 26 points.

Table 4.19. Independent samples t-test testing the differences in the three subprocesses of the limited capacity model and understanding between males and females exposed to edited packaged news

Groups	N	Mean	Standard deviation	T	Df	Sig. (2-tailed)	Mean difference
ENCODING ^a							
Male	22	9.72	1.28	5.480	80	.000	2.91061
Female	60	6.81	2.36				
STORAGE ^b							
Male	20	5.25	1.33	2.342	72	.022	.99074
Female	54	4.26	1.71				
RETRIEVAL ^c							
Male	21	1.81	.93	.289	68	.773	.07483
Female	49	1.73	1.02				
UNDERSTANDING ^d							
Male	20	16.75	1.94	4.224	62	.000	3.38636
Female	44	13.36	3.33				

^aMeans were derived using the sum of correct answers to a 12-item index.

^bMeans were determined based on responses to 8 knowledge items.

^cMeans were computed based on the information richness of open-ended responses, scored 0 to 6.

^dMeans were computed based on aggregated scores of encoding, storage and retrieval. The range of responses is 0 to 26 points.

How do all these individual characteristics combined affect encoding? A multiple linear regression using the method “enter” was calculated to predict subjects’ encoding based on the psychographic variables (involvement with the conflict, experience with the war, and attitudes toward the American invasion), media-related variables (news exposure and gratifications derived from TV news), and demographic variables (gender, age, and year in college) and mode of reporting (live vs. packaged). The results show that 16.3% of the variance in encoding can be explained by the subjects’ level of involvement with the Iraqi conflict, experience with the war, attitudes toward the invasion, news exposure, passive and active gratifications, age, gender, year in college, and mode of reporting when all these predictor variables were placed together in one block.

A significant regression equation was found ($F_{10,169} = 3.286$, $p = .001$), in which subjects' gender and year in college were found to be the strongest significant predictors. Subjects' predicted encoding is equal to $16.709 - 1.718 (\text{gender}) + .530 (\text{year in college})$ points when gender was coded as 1 for male, 2 for female, and year in college was coded based on ordered categories ranging from 1 to 5. The subjects' encoding performance increased .530 points for each increase in year in college. Males encoded 1.718 points more than females (Table 4.20).

Table 4.20. Multiple linear regression analysis showing the influence of news exposure, attitudes toward the war, experience with the war, involvement, active gratifications seeking, passive gratifications seeking, gender, year in college, age, and mode of reporting on encoding.

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1.Demographics	.368	.135	.121	2.08386	
2.Demographics, and psychographics	.369	.137	.107	2.10063	
3.Demographics, psychographics, and media related variables	.391	.153	.108	2.09849	
4. Demographics, psychographics, media related variables, and mode of reporting	.403	.163	.113	2.09273	
Anova ^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	119.786	3	39.929	9.195	.000
Residual	764.275	176	4.342		
Total	884.061	179			
2 Regression	120.675	6	20.113	4.558	.000
Residual	763.386	173	4.413		
Total	884.061	179			

Table 4.20. (continued)

Anova^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
3 Regression	135.441	9	15.049	3.417	.001
Residual	748.620	170	4.404		
Total	884.061	179			
4 Regression	143.923	10	14.392	3.286	.001
Residual	740.139	169	4.380		
Total	884.061	179			

Coefficients^a					
Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std Error	Beta		
(Constant)	16.709	3.841		4.350	.000
Age	-.305	.204	-.184	-1.498	.136
Gender	-1.718	.348	-.361	-4.935	.000
Year in college	.530	.267	.252	1.990	.048
Involvement	-.043	.086	-.044	-.506	.613
Experience	-.016	.309	-.004	-.053	.958
Attitudes	-.011	.078	-.011	-.147	.883
News Exposure	-.025	.067	-.029	-.375	.708
Passive gratifications	-.044	.050	-.086	-.881	.380
Active gratifications	.088	.049	.187	1.822	.070
Mode of reporting	-.536	.385	-.120	-1.392	.166

^aDependent Variable: Encoding

How do all these individual characteristics combined affect storage? A multiple linear regression test using the method “enter” was calculated to answer this question. A significant regression equation was found ($F_{10,159} = 4.975$, $p = .000$) with an R square of .238, in which gender and active gratifications were found to be the strongest predictors of storage.

Subjects’ predicted storage is equal to $5.578 - .887 (\text{gender}) + .094 (\text{active gratifications})$

Subjects' predicted storage is equal to $5.578 - .887 (\text{gender}) + .094 (\text{active gratifications})$ points when gender was coded as 1= male, 2= female and active gratifications from watching TV news about Iraq was measured based on a scale from 1 to 5. The subjects increased their level of storage .094 points for each increase in active gratifications. Males encoded .887 points more than females.

The results show that 23.8% of the variance in storage can be explained by the subjects' age, gender, and year in college, involvement with the war, experience with the Iraqi conflict, attitudes toward the American intervention, news exposure, active and passive gratifications and mode of reporting when all these predictor variables were placed in just one block (Table 4.21).

Table 4.21. Multiple linear regression analysis showing the influence of news exposure, attitudes toward the war, experience with the war, involvement, active gratifications seeking, passive gratifications seeking, gender, year in college, age, and mode of reporting on storage.

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1.Demographics	.268	.072	.055	1.52844	
2.Demographics, and psychographics	.336	.113	.080	1.50776	
3.Demographics, psychographics, and media related variables	.477	.228	.185	1.41980	
4. Demographics, psychographics, media related variables, and mode of reporting	.488	.238	.190	1.41472	
Anova ^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	29.989	3	9.996	4.279	.006
Residual	387.799	166	2.336		
Total	417.788	169			

Table 4.21. (continued)

Anova^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
2 Regression	47.235	6	7.872	3.463	.003
Residual	370.553	163	2.273		
Total	417.788	169			
3 Regression	95.256	9	10.584	5.250	.000
Residual	322.532	160	2.016		
Total	417.788	169			
4 Regression	99.562	10	9.956	4.975	.000
Residual	318.226	159	2.001		
Total	417.788	169			

Coefficients^a					
Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std Error	Beta		
(Constant)	5.578	2.695		2.069	.040
Age	-.164	.145	-.138	-1.131	.260
Gender	-.887	.244	-.262	-3.638	.000
Year in college	.160	.186	.107	.860	.391
Involvement	.013	.061	.018	.215	.830
Experience	-.181	.219	-.062	-.828	.409
Attitudes	.024	.054	.031	.433	.665
News Exposure	.059	.047	.096	1.263	.208
Passive gratifications	.033	.036	.092	.928	.355
Active gratifications	.094	.034	.281	2.773	.006
Mode of reporting	.394	.268	.124	1.467	.144

^aDependent Variable: Storage

A multiple linear regression test using the method enter was also conducted to evaluate how all these individual characteristics combined affect the process of retrieval. A significant regression equation was found ($F_{10,140} = 2.026$, $p = .035$) with an R square of .126. Subjects' predicted retrieval is equal to $1.972 - .378 (\text{gender}) + .056 (\text{active gratifications})$

points when gender was coded as 1 male, 2 female and active gratifications measured based on a scale from 1 to 5. Subjects' increased their retrieval score by .056 points for each increase in active gratifications. Males retrieved .378 points more than females (Table 4.22).

Table 4.22. Multiple linear regression analysis showing the influence of news exposure, attitudes towards the war, experience with the war, involvement, active gratifications seeking, passive gratifications seeking, gender, year in college, age, and mode of reporting on retrieval.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1.Demographics	.240	.057	.038	1.00292
2.Demographics, and psychographics	.295	.087	.049	.99736
3.Demographics, psychographics, and media related variables	.348	.121	.065	.98872
4. Demographics, psychographics, media related variables, and mode of reporting	.356	.126	.064	.98937

Anova^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	9.014	3	3.005	2.987	.033
Residual	147.860	147	1.006		
Total	156.874	150			
2 Regression	13.635	6	2.272	2.285	.039
Residual	143.240	144	.995		
Total	156.874	150			
3 Regression	19.038	9	2.115	2.164	.028
Residual	137.836	141	.978		
Total	156.874	150			
4 Regression	19.835	10	1.983	2.026	.035
Residual	137.039	140	.979		
Total	156.874	150			

Table 4.22. (continued)

Model	Coefficients ^a			T	Sig.
	Unstandardized coefficients		Standardized coefficients		
	B	Std Error	Beta		
(Constant)	1.972	2.017		.978	.330
Age	.006	.104	.008	.060	.952
Gender	-.378	.177	-.178	-2.143	.034
Year in college	.126	.142	.131	.889	.376
Involvement	.054	.045	.118	1.199	.233
Experience	-.161	.162	-.085	-.995	.322
Attitudes	-.055	.040	-.112	-1.369	.173
News Exposure	.008	.036	.019	.216	.830
Passive gratifications	-.042	.027	-.174	-1.583	.116
Active gratifications	.056	.025	.256	2.223	.028
Mode of reporting	.181	.200	.088	.902	.369

^aDependent Variable: Retrieval

How do all these individual characteristics combined influenced understanding? A multiple linear regression using the method “enter” was calculated to predict subjects’ understanding based on their involvement with the Iraqi conflict, experience with the war, age, gender, year in college, attitudes towards the invasion, news exposure, passive and active gratifications derived from TV news, and mode of reporting. A significant regression equation was found ($F_{10,128} = 5.255$, $p = .000$) with an R square of .291, in which active gratifications seeking, year in college and gender were found to be the strongest significant predictors. Subjects’ predicted understanding score is equal to $24.030 - 2.753(\text{gender}) + .907(\text{year in college}) + .227(\text{active gratifications})$ points when gender was coded 1= male, 2= female; year in college was based on ordered categories ranging from 1 to 5, and active gratifications was measured based on a scale ranging from 1 to 5. The subjects increased

their understanding score by .907 for each increase in year in college, and .227 for each increase in active gratifications. Males understanding score was 2.753 points higher than females.

The results show that 29.1% of the variance in understanding can be explained by the subjects' level of involvement with the Iraqi conflict, experience with the war, age, gender, year in college, attitudes towards the invasion, news exposure, passive and active gratifications, and mode of reporting when all these predictor variables were placed in just one block (Table 4. 23).

Table 4.23. Multiple linear regression analysis showing the influence of news exposure, attitudes towards the war, experience with the war, involvement, active gratifications seeking, passive gratifications seeking, gender, year in college, age and mode of reporting on understanding.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1.Demographics	.440	.193	.175	2.88289
2.Demographics, and psychographics	.465	.216	.181	2.87365
3.Demographics, psychographics, and media related variables	.539	.290	.241	2.76653
4. Demographics, psychographics, media related variables, and mode of reporting	.539	.291	.236	2.77564

Table 4.23. (continued)

Anova ^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	268.955	3	89.652	10.787	.000
Residual	1121.994	135	8.311		
Total	1390.950	138			
2 Regression	300.908	6	50.151	6.073	.000
Residual	1090.041	132	8.258		
Total	1390.950	138			
3 Regression	403.626	9	44.847	5.860	.000
Residual	987.324	129	7.654		
Total	1390.950	138			
4 Regression	404.817	10	40.482	5.255	.000
Residual	986.133	128	7.704		
Total	1390.950	138			

Coefficients ^a					
Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Std Error	Beta		
(Constant)	24.030	5.880		4.087	.000
Age	-.477	.309	-.204	-1.544	.125
Gender	-2.753	.522	-.416	-5.273	.000
Year in college	.907	.418	.300	2.172	.032
Involvement	.049	.138	.033	.354	.724
Experience	-.053	.117	-.035	-.452	.652
Attitudes	-.627	.481	-.107	-1.303	.195
News Exposure	.143	.104	.114	1.376	.171
Passive gratifications	-.119	.081	-.160	-1.479	.142
Active gratifications	.227	.074	.334	3.077	.003
Mode of reporting	.227	.578	.036	.393	.695

^aDependent Variable: Understanding

Because there were such pronounced effects between males and females, a multiple analysis of variance (MANOVA) was performed to test whether the treatment (live or edited report) interacted with gender. As was shown in the t-tests and regressions (Tables 4.17, 4.18, 4.19, 4.20, 4.21, 4.22, 4.23), there was no main effect of treatment on encoding, storage, retrieval, and overall understanding, and there was a main effect of gender on each (encoding, $F_{1, 147} = 25.148$, $p = .000$; storage, $F_{1, 147} = 9.589$, $p = .002$; retrieval, $F_{1, 147} = 5.584$, $p = .019$; understanding, $F_{1, 147} = 32.273$, $p = .000$). However, gender by treatment interactions was significant for encoding ($F_{1, 147} = 7.690$, $p = .006$) and retrieval ($F_{1, 147} = 4.457$, $p = .036$). Examinations of the means show that males encoded more from packaged news than live news, but females encoded more from the live reports. This pattern was reversed for retrieval (Table 4.24) (Appendix E).

Table 4.24. MANOVA between mode of reporting and gender

Source	DV	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected model						
	Encoding	115.789(a)	3	38.596	9.807	.000
	Storage	26.053(b)	3	8.684	4.482	.005
	Retrieval	15.173(c)	3	5.058	4.676	.004
	Understanding	281.979(d)	3	93.993	10.856	.000
Intercept						
	Encoding	9296.984	1	9296.984	2362.352	.000
	Storage	2942.423	1	2942.423	1518.622	.000
	Retrieval	366.555	1	366.555	338.920	.000
	Understanding	28835.638	1	28835.638	3330.388	.000
Mode of reporting (treatment)						
	Encoding	.217	1	.217	.055	.815
	Storage	5.990	1	5.990	3.092	.081
	Retrieval	.571	1	.571	.528	.469
	Understanding	13.456	1	13.456	1.554	.215

Table. 4.24. (continued)

Source	DV	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	Encoding	98.969	1	98.969	25.148	.000
	Storage	18.579	1	18.579	9.589	.002
	Retrieval	6.039	1	6.039	5.584	.019
	Understanding	279.429	1	279.429	32.273	.000
Mode of reporting by Gender	Encoding	30.262	1	30.262	7.690	.006
	Storage	.264	1	.264	.136	.713
	Retrieval	4.820	1	4.820	4.457	.036
	Understanding	7.796	1	7.796	.900	.344
Error	Encoding	578.515	147	3.935		
	Storage	284.822	147	1.938		
	Retrieval	158.986	147	1.082		
	Understanding	1272.776	147	8.658		
Total	Encoding	10616.000	151			
	Storage	3473.000	151			
	Retrieval	562.000	151			
	Understanding	32367.000	151			
Corrected total	Encoding	694.305	150			
	Storage	310.874	150			
	Retrieval	174.159	150			
	Understanding	1554.755	150			

^a R Squared = .167 (Adjusted R Squared = .150)

^b R Squared = .084 (Adjusted R Squared = .065)

^c R Squared = .087 (Adjusted R Squared = .068)

^d R Squared = .181 (Adjusted R Squared = .165)

Because year in college and active gratifications were significantly related to the three subprocesses of the limited capacity model and understanding, they were added as covariates

in a MANCOVA. The same pattern of main effects and interactions between gender and treatment was found only in the encoding process ($F_{1, 144} = 8.360, p = .004$) (Table 4.25) (Appendix F).

Table 4.25. MANCOVA between mode of reporting and gender, controlling for year in college and active gratifications

Source	DV	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected model						
	Encoding	130.181(a)	5	26.036	6.689	.000
	Storage	67.910(b)	5	13.582	8.118	.000
	Retrieval	19.508(c)	5	3.902	3.680	.004
	Understanding	397.540(d)	5	79.508	10.089	.000
Intercept						
	Encoding	528.666	1	528.666	135.818	.000
	Storage	70.310	1	70.310	42.024	.000
	Retrieval	8.493	1	8.493	8.010	.005
	Understanding	1175.949	1	1175.949	149.217	.000
Active gratifications						
	Encoding	.100	1	.100	.026	.873
	Storage	38.489	1	38.489	23.005	.000
	Retrieval	3.154	1	3.154	2.975	.087
	Understanding	68.818	1	68.818	8.732	.004
Year in college						
	Encoding	9.148	1	9.148	2.350	.127
	Storage	3.940	1	3.940	2.355	.127
	Retrieval	1.532	1	1.532	1.444	.231
	Understanding	39.026	1	39.026	4.952	.028
Mode of reporting (treatment)						
	Encoding	1.534	1	1.534	.394	.531
	Storage	1.087	1	1.087	.650	.422
	Retrieval	.001	1	.001	.001	.976
	Understanding	.052	1	.052	.007	.936
Gender						
	Encoding	91.618	1	91.618	23.537	.000
	Storage	20.814	1	20.814	12.441	.001
	Retrieval	6.111	1	6.111	5.763	.018
	Understanding	275.758	1	275.758	34.991	.000

Table 4.25. (continued)

Source	DV	Type III Sum of Squares	df	Mean Square	F	Sig.
Mode of reporting by Gender						
	Encoding	32.541	1	32.541	8.360	.004
	Storage	.000	1	.000	.000	.993
	Retrieval	3.926	1	3.926	3.703	.056
	Understanding	13.772	1	13.772	1.748	.188
Error						
	Encoding	560.512	144	3.892		
	Storage	240.924	144	1.673		
	Retrieval	152.685	144	1.060		
	Understanding	1134.833	144	7.881		
Total						
	Encoding	10516.000	150			
	Storage	3437.000	150			
	Retrieval	553.000	150			
	Understanding	32006.000	150			
Corrected total						
	Encoding	690.693	149			
	Storage	308.833	149			
	Retrieval	172.193	149			
	Understanding	1532.373	149			

^a R Squared = .188 (Adjusted R Squared = .160)

^b R Squared = .220 (Adjusted R Squared = .193)

^c R Squared = .113 (Adjusted R Squared = .083)

^d R Squared = .259 (Adjusted R Squared = .234)

The subjects were also asked their opinion about how international conflicts should be covered on TV before and after they were shown the stimuli. The subjects were made to choose from the following categorical responses: 1= “interrupting the regular programming for live coverage”, 2= “give time to journalists to compile audiovisual material”, 3= “show live within the regular newscast” and 4= “no preference” (Table 4.26). The responses show

that the subjects preferred foreign news events shown live within the regular newscast before (mean= 2.87, SD= 1.06) and after (mean= 2.74, SD= 1.05) the stimuli.

Table 4.26. Subjects preferred style of reporting TV news about international conflicts before and after exposure to the stimuli (N=200).

	Number	Valid Percent
Opinion 1 (before the stimuli):		
Interrupting the regular programming for live coverage	28	15.0
Give time to journalist to compile audiovisual material	35	18.7
Show live within the regular newscast	57	30.5
No preference	67	35.8
Opinion 2 (after the stimuli):		
Interrupting the regular programming for live coverage	33	17.2
Give time to journalist to compile audiovisual material	38	19.8
Show live within the regular newscast	66	34.4
No preference	55	28.6

Did the mode of presentation influence their opinion on how international conflicts should be covered on TV? The sign test results done to answer this research questions show no significant change ($Z = -1.784$, $p = .074$) between the subjects' opinion before and after they watched the news clips. Among the 184 subjects, only 38 changed their preferences after the stimuli (Table 4.27).

Table 4.27. Sign test frequencies showing differences in subjects' preferred style of reporting TV news about international conflicts before and after exposure to the stimulus.

		N		Opinion 1 – Opinion 2
Opinion before the stimuli– Opinion after the stimuli	Negative differences ^a	25	Z	-1.784
	Positive differences ^b	13	Asymp. Sig (2-tailed)	.074
	Ties ^c	146		
	Total	184		

aOpinion 1 before the stimulus < than opinion 2 after the stimulus

bOpinion 1 before the stimulus > than opinion 2

cOpinion1 = Opinion 2

Summary of the Findings

The current study attempted to provide some insights into how television viewers process live coverage versus edited news packages of early episodes of the Iraq war based on the limited capacity model proposed by Lang (2000). Lang's (2000) model states that mass media messages are processed in three different stages: encoding, storage, and retrieval. Combining the three subprocesses results in general understanding.

This study also attempted to provide evidence to show how the limited capacity model works and the relationship among the model's three stages. According to Lang et al. (2000) "the distribution of resources is determined by both automatic processes (triggered by content and structural features of the message) and by controlled processes (driven by viewer interests, needs, goals and motivations)" (p. 95). Thus, this study analyzed how subjects' involvement with the Iraqi conflict, experience with the war, their attitudes toward the invasion, age, gender, year in college, passive and active gratification derived from TV news affected encoding, storage, retrieval and understanding.

Encoding

This study did not find statistically significant differences between viewers exposed to live coverage of the skirmishes that happen in the early months of the American invasion of Iraq and those who saw the same episodes edited (or packaged) in terms of encoding. Only the demographic variables gender and year in college played a role in the way people encoded the audio-visual information (Table 4.26).

Table 4.26. Summary of the findings using encoding as the dependent variable

Independent variables (IV):	Statistical test	Sig.
Mode of reporting (live vs. package)	$t_{195}=1.583$	$p = .115 > .05$
Involvement with the Iraq conflict	$r = .041$ N=196	$p= .195 > .05$
Experience with the war	$r = .042$ N= 189	$p= .562 > .05$
Attitudes towards the war	$r = -.060$ N= 194	$p= .408 > .05$
Age	$r = .005$ N=193	$p=.943 > .05$
Gender	$t_{193}=5.177$ $\beta = -.361$	$p= .000 < .05$ $p= .000 < .05$
News Exposure	$r = .034$ N= 196	$p= .633 > .05$
Year in college	$r = .065$ N= 197 $\beta = .252$	$p= .365 > .05$ $p= .048 < .05$
Active gratifications seeking	$r = .030$ N= 196	$p= .679 > .05$
Passive gratifications seeking	$r = .024$ N= 196	$p= .740 > .05$

Storage

Viewers who saw live reports did not differ from those who saw the edited news clips in the amount of the information they stored. Results of the multiple linear regression test show that storage was predicted by active gratifications seeking and gender (Table 4.27)

Table 4.27. Summary of the findings using storage as the dependent variable

Independent variables	Statistical test	Sig.
Mode of reporting (live vs. package)	$t_{185} = .699$	$p = .486 > .05$
Involvement with the Iraqi conflict	$r = .195$ $N=186$	$p = .008 < .05$
Experience with the war	$r = -.026$ $N= 179$	$p = .730 > .05$
Attitudes towards the war	$r = .044$ $N= 184$	$p = .549 > .05$
Age	$r = .028$ $N=183$	$p = .703 > .05$
Gender	$t_{183} = 3.535$ $\beta = -.262$	$p = .001 < .05$ $p = .000 < .05$
News Exposure	$r = .250$ $N= 184$	$p = .001 < .05$
Year in college	$r = .078$ $N= 187$	$p = .289 > .05$
Active gratifications seeking	$r = .325$ $N= 186$ $\beta = .281$	$p = .000 < .05$ $p = .006 < .05$
Passive gratifications seeking	$r = .318$ $N= 186$	$p = .000 < .05$
The subprocess of encoding	$r = .348$ $N= 185$	$p = .000 < .05$

Retrieval

This study did not find significant differences in retrieval among viewers who saw the live reports and those who were exposed to the edited reports. However, year in college,

active gratifications seeking and gender were found to be significant predictors of retrieval performance (Table 4.28)

Table 4.28. Summary of the findings using retrieval as the dependent variable

Independent variables	Statistical test	Sig.
Mode of reporting (live vs. package)	$t_{163} = .990$	$p = .324 > .05$
Involvement with the Iraqi conflict	$r = .187$ $N=164$	$p = .016 < .05$
Experience with the war	$r = -.007$ $N = 158$	$p = .928 > .05$
Attitudes towards the war	$r = -.095$ $N = 164$	$p = .227 > .05$
Age	$r = .145$ $N=161$	$p = .067 > .05$
Gender	$t_{161} = 2.652$ $\beta = -.178$	$p = .009 < .05$ $p = .034 < .05$
News Exposure	$r = .124$ $N = 164$	$p = .115 > .05$
Year in college	$r = .162$ $N = 165$	$p = .038 < .05$
Active gratifications seeking	$r = .116$ $N = 164$ $\beta = .256$	$p = .138 > .05$ $p = .028 < .05$
Passive gratifications seeking	$r = .034$ $N = 164$	$p = .668 > .05$
The process of storage	$r = .224$ $N = 155$	$p = .005 < .05$

Understanding

The mode of reporting (live versus package) did not influence how viewers understood the reports about the early period of the American invasion of Iraq.

Understanding was affected by year in college, age, news' exposure, year in college and gender. Furthermore, when computing for the combination of all nine variables, the multiple linear regression results show that 27.3% of the variance in understanding can be significantly predicted by active gratifications seeking and gender (Table 4.29).

Table 4.29. Summary of the findings using understanding as the dependent variable

Independent variables	Statistical test	Sig.
Mode of reporting (live vs. package)	$t_{195} = 1.583$	$p = .115 > .05$
Involvement with the Iraqi conflict	$r = .157$ N=152	$p = .053 > .05$
Experience with the war	$r = -.007$ N= 146	$p = .935 > .05$
Attitudes towards the war	$r = -.052$ N= 152	$p = .524 > .05$
Age	$r = .087$ N=149	$p = .294 > .05$
Gender	$t_{149} = 5.538$ $\beta = -.416$	$p = .000 < .05$ $p = .000 < .05$
News Exposure	$r = .252$ N= 152	$p = .002 < .05$
Year in college	$r = .188$ N= 153 $\beta = .300$	$p = .020 < .05$ $p = .032 < .05$

Table 4.29. (continued)

Independent variables	Statistical test	Sig.
Active gratifications seeking	$r = .141$ $N = 152$	$p = .082 > .05$
	$\beta = .334$	$p = .003 < .05$
Passive gratifications seeking	$r = .107$ $N = 152$	$p = .190 > .05$

CHAPTER V

DISCUSSION AND CONCLUSIONS

This study assessed the information processing performance of TV news viewers shown two modes of reporting television news, live versus packaged.

The first research question analyzed whether those who saw the live news clips differed in terms of the first stage of the limited capacity model, encoding, from those shown the package version of the same episodes. The results show that the difference in encoding between the two groups was not significant. Thus, the mode of presenting news, live versus packaged, did not cause differences in the way viewers encode the reports. This may be attributed to the fact that none of the news clips selected were considered breaking news items, and therefore lacked the elements of novelty that Lang (2000) considers essential to enhance encoding. Furthermore, because the American invasion of Iraq has led the newscast agenda for more than two years, it is likely that viewers did not consider information from the news novel enough to affect attention.

Graber (1990) posits that when watching TV, people routinely ignore scenes or objects that are familiar to them and that “visuals become important information sources only on the comparatively limited number of occasions when they depict previously unknown situations for which audiences have no pre-existing mental pictures” (p. 139). Thus, further studies should examine how television news topics covered for long periods of time affect viewers’ perceptions of the issue, and how those topics can be made more memorable and attractive to viewers.

Television, according to Graber (1990), is notable for its routine and stereotypical approaches to news. From March to April 2003, the evening TV newscasts ran 1,200 stories

on the war, “amounting to 33 hours and 30 minutes of coverage” (Media Monitor, 2003, p.2). As such, the scenes used as experimental stimuli may have looked very similar to those shown in previous reports. Therefore, further research may seek to examine the cultivation of stereotypical images in audience’s minds by analyzing the content of TV coverage. Because the subjects may have seen similar images about the conflict many times before, this heavy exposure must have influenced their encoding performance.

The second research question asked if viewers of live reports and those exposed to packaged news differ in their storage performance. The results show no significant differences between subjects exposed to live and edited reports. The two modes of presentation did not allow the subjects to link old information about the conflict with the new ones they saw in the news clips. “Storage is affected by both individual differences and by the resource limitations of the human information-processing system” (Lang, 2000, p.53). Lang (2000) further explains that certain types of stimuli are stored better than others. As such, further studies may consider examining the structural factors that ease the process of storage and therefore help the audience learn more from information presented in newscasts.

Regarding the influence of people’s schemas in learning from television news, Graber (1990) asks:

“ People form schemata – commonsense models of their world- that permit them to cope with the flood of current information by comparing it to that schema. Do people actually use schematic processing so that the themes presented in news stories are usually primarily triggers to stored memories and produce little news learning?” (p. 146-7).

Graber’s (1999) question may help to explain why the two groups in this study did not differ in storage performance. More research needs to be done to parse the effect of

schematic processing on the storage of information learned from TV news about international conflicts, but also on the two subprocesses of encoding and retrieval.

Whether technical factors inherent to live and edited reports caused different levels of retrieval among viewers was the subject of the third research question. The results show no significant differences between the two groups.

The limited capacity model specifies that “if the content of a television message has been selected, encoded into working memory, and thoroughly stored, then it should be retrievable for use at a later date” (Lang, 2000, p. 54) Thus, the non-significant findings follow the non-significant differences in encoding and storage. Retrieval differs from the other subprocesses in that it is not performed during the viewing situation, but after exposure. Hence, time limits imposed on subjects may have accounted for the low retrieval scores.

Lang (2000) posits that “what a viewer remembers from a television message is the result of how much of the message was encoded, how well the encoded material was stored, and how much of the stored material is retrievable” (p. 56). Following this assumption, she suggested a way to measure performance in each stage. In this study, retrieval was measured by free recall questions to determine “how well a subject can retrieve a piece of information without any cues at all.” Although open-ended questions were suggested as the best way to measure the last stage of the limited capacity model, much more work should be done to determine different methods and pose different questions that can help communication researchers evaluate the effects of television news on viewer’s memory not only on a short-term basis.

The fourth research question asked whether live or edited reports caused viewers to understand news in a different way. The results show that those who saw the live news clips exhibited understanding levels that are the same as those who saw the edited pieces.

Lang (2000) highlights the fact that television reporters still rely on “old print journalism practices” of organizing and writing their reports, and that these old fashion rules affect viewers’ understanding of the news. Lang, Potter and Grabe (2003) list several post-production rules that help people process the news without making them less attention grabbing or arousing. The seven rules they suggest have to do with narrative style, the use of more concrete words, structural features, redundancy in audio and visual content, and the use of chronological narratives, among others. The eight news clips used in this experiment were not content analyzed to see if they indeed match these guidelines. The non-significant results may have something to do with this. According to Brosius (1999), learning from TV can be more effective if presentation formats are used appropriately, if individual needs are taken into account, and if a sensitive measure of learning is available.

Because some (i.e., Seib, 2001) claim that “journalism standards have not always kept up with technological advances” (p. x), further research may consider how to better fit the old television standards to the current 24-hour news cycle. Indeed, Lang (2000) suggests much more should be done with the “print age” values still being used in the production of TV news. They need to be updated for today’s up-to-the-minute media environment.

Future studies may also aspire to apply these post-production rules to television news in order to improve memory and audience comprehension of stories.

Lang (2000) acknowledges that the outcomes of the limited capacity model may vary among individuals, cultures and settings. This study therefore attempted to provide some

insights as to how those individual differences impact the three subprocesses of the model and understanding. In doing so, it is important to state that this study does not attempt to generalize the findings to the general population of TV viewers.

This study analyzed how involvement with the conflict and experience with the war affected the three stages of Lang's model as well as understanding. Evidence was found to support the claim that only those who reported being more involved, interested and concerned with the war performed better in the storage and retrieval stages. Experience with the war was not found to be a significant predictor of any of the three subprocesses of the model and understanding. This may be due to the fact that viewers with direct experience with the conflict already have direct ways of learning from it. Holding strong schemas about the situation in Iraq may have made them disregard new information.

The limited capacity model explains how the distribution of resources among the subprocesses primarily depends on the needs of the individual. Viewers who feel more connected to the Iraqi situation were more willing to retain new information about the war. Information may have been easily retrieved by viewers who were more interested in the war. As Lang (2000) explains, "if the viewer is an expert in the message area, then retrieval of background information will require few resources, as the associative memory network will be complex and available" (p. 54). In short, the more people know about something, the easier it is to learn more about it.

Viewers' attitudes towards the American involvement in Iraq were not found to be a significant predictor of the three subprocesses of the limited capacity model or understanding. Their conceptions of the conflict did not alter the way they processed the

news. Further research should explain why specific characteristics influence the subprocesses in different ways.

Evidence was found to support the notion that active gratifications seeking influenced the processes of storage, retrieval and understanding. The situation is different for those who seek passive gratifications. Passive viewing tended to lead to higher storage, following the limited capacity model, due to the fact that in any TV-viewing situation, automatic processes are activated. What is it happening in the information processing stages of those individuals that see TV news just as a background? What are its effects on memory and perception of the news content? Research done in natural settings can elucidate the effects of passive gratifications seeking on information processing.

The findings also indicate that exposure to news increased the levels of storage and understanding. This may be because viewers who are regularly exposed to the news media may have developed more associative networks and are thus able to activate them more often than those who do not pay attention to media content. It is also possible that viewers who normally watch the news have already developed strategies to quickly store and understand mediated messages.

Grabe et al. (1999) tested the limited model of information processing controlling for subjects' different levels of education. Their findings indicate that although their two groups did not differ in the levels of attention they paid to news stories, the higher educational level group did remember more from the news clips. This current study produced similar findings, as educational level was found to be a strong predictor of encoding and understanding. Although college students may exhibit different retrieval capacities with year in college, further research may want to look at how this works with a more heterogeneous sample.

Studies regarding media literacy, the maturation process and the limited capacity model of information processing may contribute to the broadening of the knowledge base regarding the impact of educational gaps.

This study also found a gender gap in the performance of the three information processing stages, with males being more prone to encode, store, retrieve and understand more information about the news segments shown. Further studies should explain the underlying reasons for this gender gap.

Live reporting has become a very popular way of showcasing local, national and international news. News directors and producers still labor under the impression that more live coverage leads to higher audience ratings (Tuggle et al., 1999). Although the majority of the subjects in this study said they prefer to see live reports of international news, watching the news live did not make them process the information deeply. The findings suggest that more work should be done to improve the teaching function of “going live.”

It is indeed impossible to deny TV’s limitations in transmitting stories. Often, there is too little air time to tell most stories in depth, its audiences are easily distracted and often inattentive, and viewers lack control over the pace of the story (Robinson and Levy, 1986). Nevertheless, television is still one of the most efficient vehicles of communicating international news to the general audience. Therefore, “there is no good reason why TV news should remain beyond comprehension” (Robinson et al, 1986, p. 241).

This study showed the limitations of the limited capacity model to predict how subjects comprehend the news. Those who saw live reports and those exposed to packaged news did not differ in their encoding, storage, and retrieval performance despite some interaction effects with gender. Although encoding was correlated to storage and storage

resulted to retrieval, their influence was not strong enough to predict understanding. Among the individual characteristics, active gratifications significantly contributed to storage, retrieval and understanding.

Demographic variables also exerted their influence on the three stages of the information processing model. Gender and year in college made a difference in encoding and understanding; gender also predicted storage and retrieval.

The findings indeed indicate that the mode of presenting news (live versus packaged) did not affect performance in each of the three model stages that, in turn, did not predict understanding. News producers and directors may find these results useful not only to analyze if live reports are worth the time, effort and resources but also to consider different ways of presenting the news in order to make newscasts more effective and understandable.

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APPENDIX A.

HUMAN SUBJECTS REVIEW APPROVAL

ORIGINAL

For IRB Use Only	Review Date: _____	IRB ID: <u>05-029</u>
	Approval Date: _____	Length of Approval: _____
	Approval Expiration Date: _____	FULL Committee Review: _____
	EXEMPT per 45 CFR 46.101(b): <u>2</u> Date: <u>2/3/05</u>	Minimal Risk: <u>✓</u>
	EXPEDITED per 45 CFR 46.110(b): _____	More than Minimal Risk: _____
	Category _____ Letter _____	Project Closed Date: _____

ISU NEW HUMAN SUBJECTS RESEARCH FORM

IRB

JAN 24 2005

SECTION I: GENERAL INFORMATION

Principal Investigator (PI): Rut Rey	Phone: (515) 572-0219	Fax: _____
Degrees: B.A. Journalism	Correspondence Address: Larch Cessna 4330 Ames IA 50013	
Department: Journalism and Mass Communications	Email Address: rutrey@iastate.edu	
Center/Institute: Greenlee School of Journalism	College: LAS	
PI Level: <input type="checkbox"/> Faculty <input type="checkbox"/> Staff <input type="checkbox"/> Postdoctoral <input checked="" type="checkbox"/> Graduate Student <input type="checkbox"/> Undergraduate Student		

Title of Project: Live coverage and people's understanding of the Iraq war
Project Period (Include Start and End Date): [mm/dd/yy][01/31/05] to [mm/dd/yy][05/01/05]

FOR STUDENT PROJECTS

Name of Major Professor/Supervising Faculty: Lulu Rodriguez	Signature of Major Professor/Supervising Faculty: <i>Lulu Rodriguez</i>
Phone: (515) 294 0484	Campus Address: 214 Hamilton Hall, IA 50011-0001
Department: Journalism and Mass Communications	Email Address: lulurod@iastate.edu
Type of Project: (check all that apply)	
<input type="checkbox"/> Research	<input checked="" type="checkbox"/> Thesis
<input type="checkbox"/> Independent Study (490, 590, Honors project)	<input type="checkbox"/> Dissertation
	<input type="checkbox"/> Other. Please specify: _____
	<input type="checkbox"/> Class project

KEY PERSONNEL

List all members and relevant experience of the project personnel. This information is intended to inform the committee of the training and background related to the specific procedures that the each person will perform on the project.

NAME & DEGREE(S)	SPECIFIC DUTIES ON PROJECT	TRAINING & EXPERIENCE RELATED TO PROCEDURES PERFORMED, DATE OF TRAINING
1. Rut Rey (M.S., in progress)	Principal investigator: development of audiovisual experiment, data collection, and data analysis.	IRB online training
2. Lulu Rodriguez	Major professor: supervision of the experimental procedures and data analysis	IRB online training 3/11/03
3.		

FUNDING INFORMATION

If internally funded, please provide account number: _____
If externally funded, please provide funding source and account number: _____

APPENDIX B.

INFORMED CONSENT

ISU IRB # 2	05-039
EXEMPT DATE:	February 2, 2005

INFORMED CONSENT DOCUMENT

Title of Study: TV news coverage of the Iraq war and people's understanding
Investigators: Rut Rey. Major Professor: Dr. Lulu Rodriguez.

This is a research study. Please take your time in deciding if you would like to participate. Please feel free to ask questions at any time.

INTRODUCTION

The purpose of this study is to learn more about TV news coverage of the Iraqi situation. You are being invited to participate in this study because you are a ISU student.

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, your participation will last for 30 minutes. During the study you may expect the following study procedures to be followed. You will be asked to watch a video that includes several newscast items and complete a questionnaire about your the video. You will also be asked about your personal demographic characteristics and media exposure. You may skip any question that you do not wish to answer or that makes you feel uncomfortable.

RISKS

There are no foreseeable risks at this time from participating in this study.

BENEFITS

If you decide to participate in this study there will be not be direct benefit to you . It is hoped that the information gained in this study will benefit society by providing valuable information about the coverage of TV news and people's understanding.

COSTS AND COMPENSATION

You will not have any costs from participating in this study. You will not be compensated for participating in this study.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. Choosing not to participate will not affect your grade.

RESEARCH DISCOMFORT

We do not expect that you will feel any discomfort for participating. However, if you do feel uncomfortable, you may wish to contact Student Counseling Services (3rd floor, Student Service Building, 294-5205). If you want, you may ask the experimenter to immediately escort you there.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. Your data will be identified, after the study is completed, by an arbitrary identification number. All data from this study will remain anonymous and there is no way to identify the participants. Only the research team will have access to the data. We will hold the results until the statistical analysis and conclusions are completed, until December 2005. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact Rut Rey, (294-9687); major professor Dr. Rodriguez (294-0484). If you have any questions about the rights of research subjects or research-related injury, please contact Ginny Austin Eason, IRB Administrator, (515) 294-4566, austingr@iastate.edu, or Diane Ament, Research Compliance Officer (515) 294-3115, dament@iastate.edu.

SUBJECT SIGNATURE

Your signature indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You will receive a copy of the signed and dated written informed consent prior to your participation in the study.

Subject's Name (printed) _____

(Subject's Signature)

(Date)

INVESTIGATOR STATEMENT

I certify that the participant has been given adequate time to read and learn about the study and all of their questions have been answered. It is my opinion that the participant understands the purpose, risks, benefits and the procedures that will be followed in this study and has voluntarily agreed to participate.

(Signature of Person Obtaining
Informed Consent)

02/17/2005
(Date)

APPENDIX C. QUESTIONNAIRE

1

What was your age on your last birthday? Gender Male ☐ Female ☐What is your classification? Freshman ☐ Sophomore ☐ Junior ☐ Senior ☐ Graduate ☐

What is your major? _____

	Always	Regularly	Sometimes	Hardly ever	Never
How often do you use the Internet to get the news?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you read news magazines?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you watch television news?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you read a daily newspaper?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often do you listen to the news on the radio?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

We are interested in why people watch TV news. Here there are several reasons other people have given. As you read each reason, please indicate how much the reason applies to you. Check number 5 if the reason very definitely applies, number 1 if it does not apply at all, or numbers 2, 3, or 4 depending on how much it applies in between.

	Does not apply			Very definitely applies	
	①	②	③	④	⑤
I watch TV news about Iraq because it is often exciting	①	②	③	④	⑤
I watch TV news because you can trust the information they give you about Iraq	①	②	③	④	⑤
I watch TV news to find out what US is doing to improve the situation in Iraq	①	②	③	④	⑤
I watch TV news to give interesting things to talk about the situation in Iraq with others	①	②	③	④	⑤
I watch TV news about Iraq because it is often entertaining	①	②	③	④	⑤
I watch TV news to support my own viewpoints about the situation in Iraq	①	②	③	④	⑤
I watch TV news to help me make up my mind about the important issues concerning Iraq	①	②	③	④	⑤
I watch TV news so I can pass information about the situation in Iraq on to other people	①	②	③	④	⑤
I watch TV news to find out issues affecting the Iraqi people	①	②	③	④	⑤
I watch TV news about Iraq because it is often dramatic	①	②	③	④	⑤
I watch TV news to keep up with current issues and events in Iraq	①	②	③	④	⑤

Please check only one answer.

How interested are you about the situation in Iraq?

Extremely interested Very interested Fairly interested A little bit interested Not at all interested

☐☐☐☐☐

How involved are you with the situation in Iraq?

Extremely involved Very involved Fairly involved A little bit involved Not at all involved

☐☐☐☐☐

How concerned are you with the situation in Iraq?

Extremely concerned Very concerned Fairly concerned A little bit concerned Not at all concerned

☐☐☐☐☐

Do you have a friend or family member now serving in Iraq?

Yes ☐ No ☐

Do you have any personal experience with the conflict in Iraq?

Yes ☐ No ☐

Please indicate how much you agree or disagree with the following statements:

I am in favor of the American invasion of Iraq.

Strongly agree Neutral Strongly disagree

☐☐☐☐☐

The US has no business being in Iraq.

Strongly agree Neutral Strongly disagree

☐☐☐☐☐

The US is doing its best to bring democracy to Iraq.

Strongly agree Neutral Strongly disagree

☐☐☐☐☐

The US invasion of Iraq will strengthen America's role as a superpower.

Strongly agree Neutral Strongly disagree

☐☐☐☐☐

Americans are already paying too much for the Iraqi invasion.

Strongly agree Neutral Strongly disagree

☐☐☐☐☐

Please check only one answer:

In your opinion, how should TV news about international conflicts be covered?

Interrupt the regular programming for live coverage

☐

Give time for journalists to compile and edit audiovisual and text materials

☐

Show live coverage during regular newscast time

☐

No preference

☐

**PLEASE STOP HERE. DO NOT GO BACK.
DO NOT TURN THE PAGE UNTIL THE ASSISTANT
INDICATES YOU TO CONTINUE.
THANK YOU.**

Please, identify if you have seen or heard the following images and terms in the videos shown. We will project the images on the screen. Please, check only one answer.

1. Did you see this image in any of the news reports?

- | | | | |
|----------|------------------------------|-----------------------------|-------------------------------------|
| Image #1 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Image #2 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Image #3 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Image #4 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Image #5 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Image #6 | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |

2. Do you remember the following terms being mentioned in the reports?

- | | | | |
|---------------------------------------|------------------------------|-----------------------------|-------------------------------------|
| Rocket Propelled Grenade | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Weapons of mass destruction | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Fedayeen, Saddam's paramilitary force | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Al-Jazeera TV | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Kurdistan Democratic Party | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
| Military checkpoint | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |

Please choose only one answer.

In your opinion, how should TV news about international conflicts be covered?

- ☐ Interrupt the regular programming for live coverage
☐ Give time for journalists to compile and edit audiovisual and text materials
☐ Show live within the regular newscast time
☐ No preference

1. What was happening in Baghdad as shown in the news clips?

[illegible]

2. According to the news clip you saw, what was happening to the 3rd Infantry division on the way to Baghdad?

[illegible]

The following are multiple choice items. Please check only one answer.

1. The US soldiers encountered problems with civilians at:

- ☐ The Iraqi border with Kuwait
- ☐ Military checkpoints and urban neighborhoods
- ☐ Government buildings
- ☐ Don't know

2. When the Marines entered Baghdad, they were threatened with:

- ☐ Chemical weapons
- ☐ Gunfire and grenades
- ☐ They were not threatened at all
- ☐ Don't know

3. In the video, where did the Americans encounter the biggest resistance?

- ☐ Qatar
- ☐ Nasiriyah
- ☐ An-Nayaf
- ☐ Don't know

4. Advancing toward Baghdad, the Mechanized Infantry Division

- ☐ encountered some sporadic gunfire
- ☐ did not encounter major problems
- ☐ engaged in several battles
- ☐ Don't know

5. Where were people celebrating the toppling down of Saddam's statue?

- ☐ City center downtown Baghdad
- ☐ All around the Baghdad neighborhoods

☐ There was no celebration, they were still at war

☐ Don't know

6. What did the US Commanders order the soldiers to do after the incidents in the south of Baghdad?

☐ Be cautious before opening

☐ Open fire to potentially dangerous targets

☐ Do not to enter the cities

☐ Don't know

7. Looting was happening all over Baghdad, however they were not stopped by any Iraqi officials. Why?

☐ Because they were protected by American soldiers

☐ Because Iraqi Police officers were not able to control the crowd

☐ Because there was no Iraqi Government or police control

☐ Don't know

8. What is the name and destination of the armored mechanized unit shown in the videos?

☐ 3rd Infantry Division towards Baghdad

☐ 3rd Airborne Division towards An-Nayaf

☐ 101st Marines towards Basra

☐ Don't know

THANK YOU VERY MUCH FOR YOUR PARTICIPATION!!

APPENDIX D
TRANSCRIPTS OF NEWS CLIPS

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Page 1 of 2

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ISU IRB # 2	05-039
EXEMPT DATE:	February 2, 2005

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Copyright 2003 CBS Worldwide Inc.
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CBS News Transcripts

SHOW: CBS Evening News (6:30 PM ET) - CBS

March 24, 2003 Monday

TYPE: Newscast**LENGTH:** 452 words**HEADLINE:** US Army's 3rd Infantry Division continue their march towards Baghdad**ANCHORS:** DAN RATHER**REPORTERS:** JIM AXELROD**BODY:**

DAN RATHER, anchor:

Facts on the ground indicate that overall, from a military standpoint, the invasion continues to go well. With that as the context, we take you to the front lines. CBS' Jim Axelrod is with the US Army's heavyweight 3rd Infantry Division, an armored, mechanized unit driving toward Baghdad. Jim filed this report from somewhere south of the Iraqi Shiite holy city of Karbala tonight. That's about 50 miles south of the capital.

JIM AXELROD reporting:

Never have so many troops moved so far, so fast. But during its historic push, the 3rd Infantry didn't just drive, they battled as well, taking on pockets of resistance and capturing hundreds of Iraqi soldiers.

Staff Sergeant GEORGE STEPHENSON (US Army): One of the--the majors spoke English. He told us that they--that their government had been telling when we got here, even if they gave up, we were going to kill them.

AXELROD: But as the Iraqi's discover humane treatment, they've been sharing information.

Colonel WILL GRIMSLEY (US Army): And we're hearing all kinds of things about this regime and this enemy and this terrain and--and that's--that's all very useful.

AXELROD: Take the captured weapons displayed this morning. The guns are old, but look at the gas masks.

Sergeant JENNIFER RAICHLE (US Army): Looks like a regular chemical protective mask. It's got the--it was made in 2002.

AXELROD: Brand new. As were the decontamination kits and atropine, used to treat exposure to nerve agents.

Sgt. RAICHLE: I will guess that they--they're planning on using chemical warfare. They may or may not use it, but they're ready for it.

AXELROD: But it's not just the captured gas masks raising concerns about the possible use of chemical weapons. This picture of Saddam marks the entrance to an Iraqi weapons depot. Another captured Iraqi has told Army officers that while conventional weapons are stored here, he has reason to believe chemical weapons are stored here as well.

This afternoon, the Army sent its chemical detection units to the depot.

Specialist STEVE MOORE (US Army): This will look up any chemical contamination.

AXELROD: Specialist Steve Moore sat in one of the foxes, as they're called, sniffing with high-tech sensors from miles away before sending others in for a hands-on search.

Spe. MOORE: The others team's going to go in and they're going to detect for liquid contamination and if there's any more vapor there that's not detected by this, they'll pick it up over there.

AXELROD: That won't happen until tomorrow, leaving the question hanging. 'If the Army has finally discovered what it came so far to find.' Jim Axelrod, CBS News, with the 3rd Infantry in Iraq.

LOAD-DATE: March 26, 2003

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EXEMPT DATE	February 2, 2005
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CBS News Transcripts

SHOW: CBS Evening News (6:30 PM ET) - CBS**March 31, 2003 Monday****TYPE:** Newscast**LENGTH:** 447 words**HEADLINE:** Soldiers engage in urban warfare in Najaf**ANCHORS:** DAN RATHER**REPORTERS:** MARK STRASSMANN**BODY:**

DAN RATHER, anchor:

CBS News correspondents are deployed with US and allied forces on the front lines in Iraq and at other key locations around the world to bring you clear coverage of the war.

Urban warfare well south of Baghdad is increasing some, so we begin with CBS' Mark Strassmann. He's in the city of Najaf, about 90 miles south of the Iraqi capital, where a sharp engagement today highlighted new tactics the US is using trying to wipe out the harassment attacks that have slowed the march to Baghdad.

MARK STRASSMANN reporting:

Thunder roared into Najaf at daybreak, then came lightning. Charlie Company poured into this military compound, searching building by building for Iraqi fighters dug in here.

Priority right now?

Sergeant PATRICK REED (US Army): Security. Security and clearing the buildings, sir.

STRASSMANN: Biggest risk?

Sgt. REED: RPGs.

STRASSMANN: RPGs being?

Sgt. REED: Rocket-propelled grenades, sir.

STRASSMANN: There are dozens of buildings to clear in this compound. Right now in the one behind that wall, Charlie Company thinks there's an Iraqi soldier firing a grenade launcher.

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ISU IRB # 2	05-039
EXEMPT DATE:	February 2, 2005

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CBS News Transcripts

SHOW: CBS Evening News (6:30 PM ET) - CBS**April 9, 2003 Wednesday****TYPE:** Newscast**LENGTH:** 382 words**HEADLINE:** Some sections of Baghdad still unsafe for coalition forces**ANCHORS:** DAN RATHER**REPORTERS:** BYRON PITTS**BODY:**

DAN RATHER, co-anchor:

While the center of Baghdad seems securely in the hands of US Marines, other sections of the capital city are anything but secure as CBS' Byron Pitts found out today firsthand and the hard way.

BYRON PITTS reporting:

- This morning the US Marines rolled into downtown Baghdad locked and load for a fight, when a party broke out: Iraqi citizens chanting and screaming as they tore down this life-sized statue of Saddam Hussein on the steps of the Iraqi Oil Ministry, all while the Marines were clearing this 13-story building. It was one of the last remaining symbols of Saddam's regime.

Unidentified Man: Saddam dead. No Saddam. OK?

Unidentified Marine #1: Oh, I think I feel about as proud as they do. I mean, I--too bad it wasn't him personally. But we'll take a statue.

PITTS: But suddenly the celebrations stopped with the crackle of gunfire. But the party did not last long. About 45 minutes after those Iraqi civilians tore down that statue of Saddam Hussein, these Marines found themselves in the middle of a firefight. They've spotted at least three men firing on their position here at the Iraqi Ministry of Oil.

Unidentified Marine #2: Hey, the fire is coming from the white warehouse.

PITTS: This wasn't warfare, this was a street fight. US Marines, average age 19 to 22, each with an M-16, vs. Saddam's Fedayeen paramilitary, also young men with AK-47s. Nearly two hours of gunfire and rocket-propelled grenade launchers, these Marines from Lima Company, based in Twentynine Palms, California, are flanked on three sides by snipers when the corporal spots three heads bobbing behind a wall. He pleads with Lima Company's commanding officer to take the shot, but Captain George Schreffler from Harrisburg, Pennsylvania, orders his man to stand down; wait until he can see a weapon.

Captain GEORGE SCHREFFLER (US Marines): But we need some positive ID before we engage in.

PITTS: The captain made the right call. Those three heads were an Iraqi family: a husband, his wife and daughter. In the end, two Iraqi snipers dead, a third escaped, no American casualties and a platoon of young Marines learned a valuable lesson, America is winning this war but she cannot end it, at least not yet. Byron Pitts, CBS News, Baghdad.

LOAD-DATE: April 10, 2003

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ISU IRB # 2	05-039
EXEMPT DATE:	February 2, 2005

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CBS News Transcripts

SHOW: CBS Evening News (6:30 PM ET) - CBS**April 9, 2003 Wednesday****TYPE:** Newscast**LENGTH:** 341 words**HEADLINE:** Widespread looting taking place in Basra**ANCHORS:** DAN RATHER**REPORTERS:** JOHN ROBERTS**BODY:**

DAN RATHER, co-anchor:

As Saddam's government vanished today, so did any semblance of government control. The result in Baghdad, as earlier in Basra, was widespread looting. CBS News correspondent John Roberts is on the scene with that part of the story.

JOHN ROBERTS reporting:

For the Marines who are fighting for control of Baghdad's eastern neighborhoods, this war is not over yet.

Unidentified Marine #1: As soon as we crossed the Tigris, we had to clear some trench lines. We had at least 30 Iraqi troops on the bush line and we engaged; took out bunkers with grenades, took out the trench line with machine guns.

ROBERTS: The celebrating in the city center aside, the Marines still have much work to do, clearing residential areas of Saddam's militia and foreigners who have come to Iraq to kill Americans.

Unidentified Marine #2: We're meeting sporadic resistance. You see fairly determined stuff at first. You know, for the first couple minutes, it's--it's fast and furious and then what happens is as soon as they realize they go--the Marines are here to kill them, these guys are breaking and running.

ROBERTS: With each passing hour, these Marines are drawing closer to their objective. No one wants to put an exact time line on it, but they say you can almost feel the regime crumbling.

Unidentified Marine #2: I think, from what I've seen, you know, I--at my level, we're witnessing the final death throes of this regime.

ROBERTS: But in the Marines sector they are also witnessing the death throes of law and order. With the military broken and the police afraid to come out, Iraqis are looting on a grand scale. They steal trucks, generators, combine harvesters. What can't be carried is rolled, pushed, even dragged back home. And every thief it seems is proud of his

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crime, happy to take back what they believe was taken from them.

As comical as it all might seem, it is a clear sign that while war might be ending, there is trouble ahead. John Roberts, CBS News, with the Marines in Baghdad.

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NBC News Transcripts

SHOW: NBC Nightly News (6:30 PM ET) - NBC**March 24, 2003 Monday****LENGTH:** 260 words**HEADLINE:** 3rd Infantry division prepares to encounter two Republican Guard units south of Baghdad**ANCHORS:** TOM BROKAW**REPORTERS:** DAVID BLOOM**BODY:**

TOM BROKAW, anchor:

The tip of the American spear aimed at Baghdad is the 3rd Infantry Division, a storied mechanized outfit led by Bradley fighting vehicles and Abrams tanks. It's been on the move now for five days, and it is thought to be within reach of Baghdad. NBC's David Bloom, as you know, is traveling with the 3rd.

DAVID BLOOM reporting:

Tom, we've been rolling all night now with this tank and infantry brigade, the 315 Infantry from the US Army's 3rd Infantry Division. They had stopped during the day, but we got rolling again tonight. A couple of hours ago, we came under a brief Iraqi artillery or mortar strike. We're under attack right now! We ducked down inside this M-88, this tank recovery vehicle. Then in the distance, we could see MLRS rockets, the multiple-launch rocket systems that the Americans use, the counterbattery, if you will, from the Paladins, the heavy howitzers, which they use with a range of up to 30 or 35 miles to strike against Iraqi artillery positions or other Iraqi forces.

This division is almost certainly likely to take on two Iraqi heavily armored divisions to the south of Baghdad that are manned by the Republican Guard. Now, as we have been rolling tonight, we passed by an anti-aircraft, the AAA Iraqi guns, two twin .30 caliber guns which are used to try and knock the American Apaches or—or F-16s or F-15s, the aircraft, out of the sky. It had been disabled. For now, I'm David Bloom with the US Army's 3rd Infantry Division. Back you to, Tom.

BROKAW: Thanks very much, David Bloom.

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NBC News Transcripts

SHOW: NBC Nightly News (6:30 PM ET) - NBC**March 31, 2003 Monday****LENGTH:** 234 words**HEADLINE:** US forces kill seven women and children when civilian failed to stop when commanded to do so**ANCHORS:** TOM BROKAW**REPORTERS:** KELLY O'DONNELL**BODY:**

TOM BROKAW, anchor:

The Iraqi civilian numbers continue to grow, in part because the coalition forces can't always tell the innocents from the paramilitary groups that dress in civilian clothes and drive civilian vehicles. Today, in An Najaf, where there's been heavy fighting, a tragedy. NBC's Kelly O'Donnell has details tonight from the central command in Qatar. Kelly:

KELLY O'DONNELL reporting:

Tom, tonight US central command describes this shooting as an act of last resort. Officials here say this afternoon a civilian vehicle failed to stop at a military checkpoint near the city of An Najaf. Central command says soldiers from the 3rd Infantry Division signaled the driver to stop. They claim warnings, even warning shots, were ignored. They say the vehicle kept moving, so soldiers fired into the passenger cabin, then discovered 13 Iraqi women and children inside. Seven were dead, two were injured, four others unharmed. Since Saturday, when four Marines were killed at a separate suicide bomb attack at a different military checkpoint, officials here say that soldiers have been on heightened alert, but claim no procedures have changed. Tonight officials say it appears that while an investigation is under way, the soldiers seem to have followed the rules of engagement and exercised extreme restraint. Tom:

BROKAW: Thanks very much. Kelly O'Donnell tonight in Qatar.

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NBC News Transcripts

SHOW: NBC Nightly News (6:30 PM ET) - NBC**April 9, 2003 Wednesday****LENGTH:** 373 words**HEADLINE:** Engagements still ongoing between US, Iraqi forces**ANCHORS:** TOM BROKAW**REPORTERS:** BRIAN WILLIAMS**BODY:**

TOM BROKAW, anchor:

And NBC's Brian Williams has now made his way to Baghdad under very difficult circumstances, illuminated only by flashlight.

Brian, what can you tell us about the fighting that is still going on? Is that evident tonight in the city?

BRIAN WILLIAMS reporting:

Well, Tom, it is. Flashes on the horizon, one concussion about a minute ago that really shook the air and the ground swung open a warehouse door not far from here. I should set the scene. We are with an element of the US Army, lit by two flashlights I happened to have in my backpack, making the best with what we have. And while today's television pictures out of the middle of town in the center of the city of Baghdad might have looked like the Champs-Elysees in 1945 to people, while people may look back some day and brand this VI Day for the way it looked and felt to the people in the city, that comes as a great surprise to elements of the US Army who are in and around the city where they still point to orange glows all over the horizon, one spot in particular, and will tell you about ongoing engagements, firefights, artillery battles tonight.

No one is anything short of assured of a coalition victory, of course. It's just high-tech and overwhelming firepower at this point. But a lot of Baghdad, for that matter a lot of Iraq, is still considered a hot zone. There are parts of air travel, even militarily, that are still--still considered hot here. And while again we saw two or three live camera angles today, it might have given off the wrong impression when we related the television pictures here to elements of the US Army. They were surprised to hear that. They are still fighting a war. Folks here were just in a gun battle, an engagement tonight. This is not shared generally. They will start to feel better when they get out and about. They are doing probing runs into the city by day. So, again, flashes and concussions here by night. A lot of noise and a lot of light out in the distance. This will be slow going, mile by mile, but they are buoyed by what they saw downtown today. Tom:

BROKAW: All right, thanks very much. NBC's Brian Williams tonight on a videophone illuminated by flashlights.

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NBC News Transcripts

SHOW: NBC Nightly News (6:30 PM ET) - NBC

April 9, 2003 Wednesday

LENGTH: 360 words

HEADLINE: Baghdad residents show jubilation concerning freedom

ANCHORS: TOM BROKAW

REPORTERS: BOB ARNOT

BODY:

TOM BROKAW, anchor:

One of those who made the--his way into the city from the south today was NBC's Bob Arnot, traveling with the 1st Marines. His memorable day now, **IN HIS OWN WORDS.**

BOB ARNOT reporting:

Tom, today the 1st Marine Expeditionary Force moved in strength through Baghdad. Fighting house to house, they had overhead snipers trying to protect Marines on the ground, and because of the threat of rocket-propelled grenades, really had to move by foot. This morning, I--I went through the US Marine lines out into the streets and found that I--that I was hugged and kissed; that people said, 'Go, go USA. Go, go George Bush. Yes, Bush. Yes, Bush. Down,' they'd stomp their feet, 'Down, Saddam Hussein.' The most remarkable thing I saw was when an M1-A1 Abrams tank actually blasted through the wall of a cigarette factory, and the crowd cheered. We didn't know why they cheered until we saw that they could go in and steal as many packs of cigarettes as they wanted to. But literally within five minutes, it was, 'Could we have some clean water? We have no clean water. How about some food?' And then real fears about their future. 'What do we do? Where do we go?' And a complete absence of any kind of civil administration.

I was able to make my way over from east Baghdad here to the center of town as that statue was being taken down. Treacherous journey in that there were four, five firefights along the way, including those with the use of the 155-millimeter Howitzers that would pound enemy positions on the way in. Here in town tonight, it is eerily quiet. There's no one in the streets. No vehicles in the streets. No lights. A little light arms fire here and there. US Marines, tomorrow morning expecting to be out on the streets in strength again, going house by house, block by block, trying to find the Fedayeen and trying to find any semblance of the Republican Guard, this sort of vaunted force that was supposed to offer such stiff resistance, but in the end fell by the wayside. Tom,...

BROKAW: NBC's...

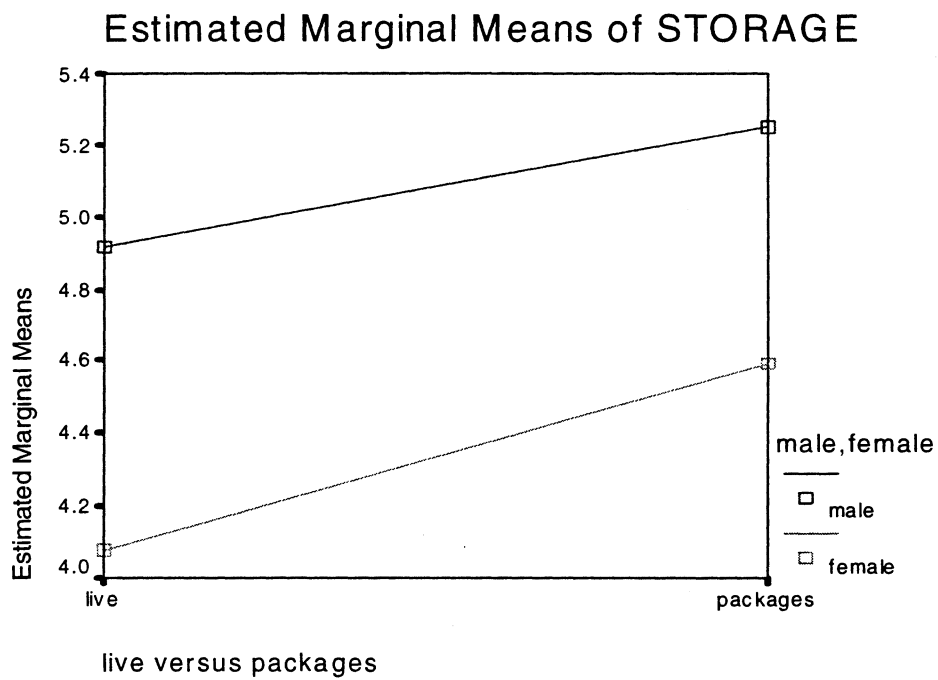
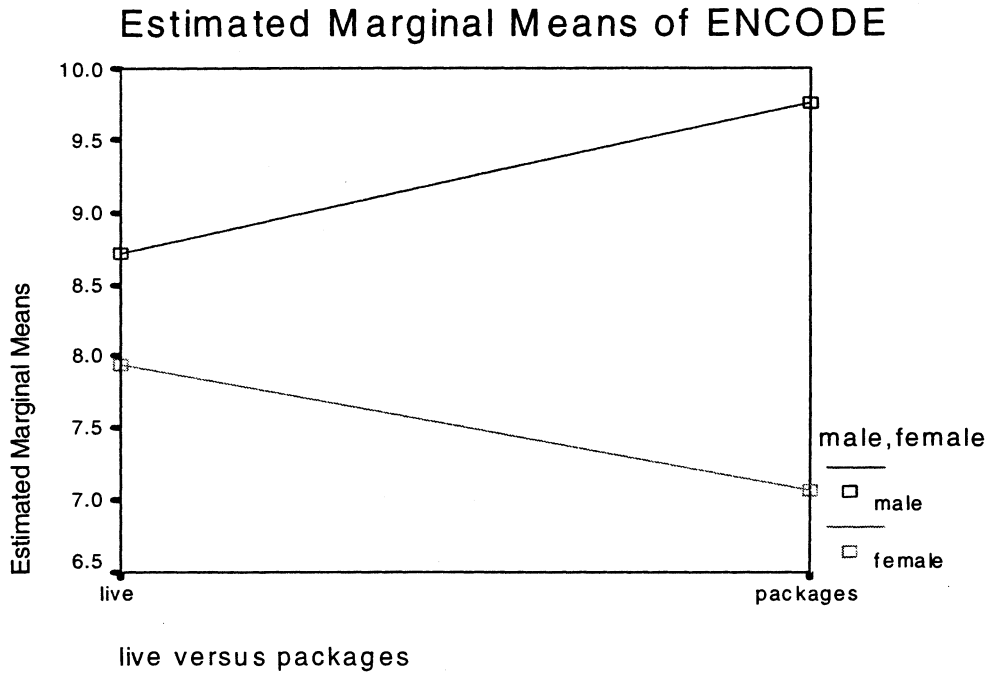
ARNOT: ...back to you.

BROKAW: Thanks very much, NBC's Bob Arnot tonight, **IN HIS OWN WORDS.**

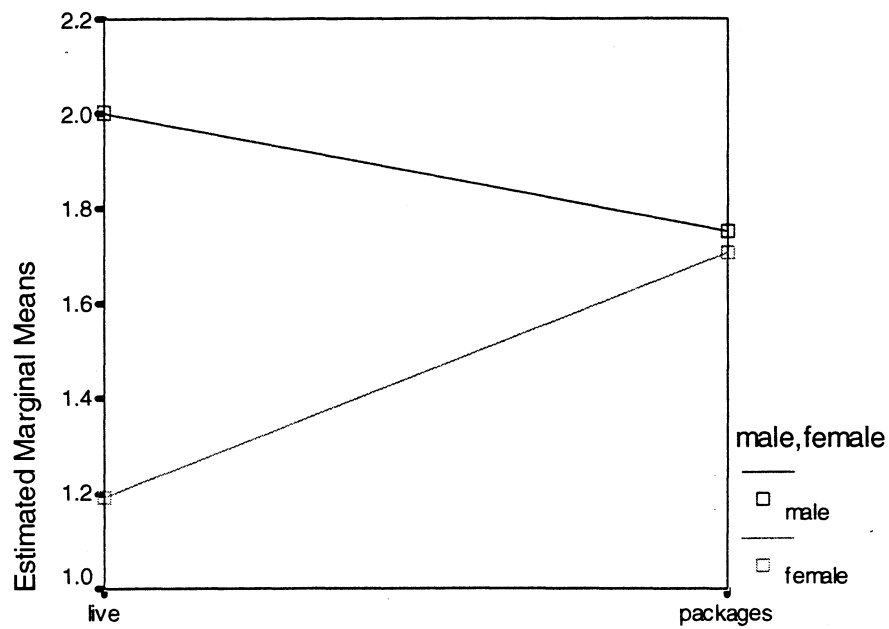
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APPENDIX E

MANOVA PLOTS BETWEEN MODE OF REPORTING AND GENDER

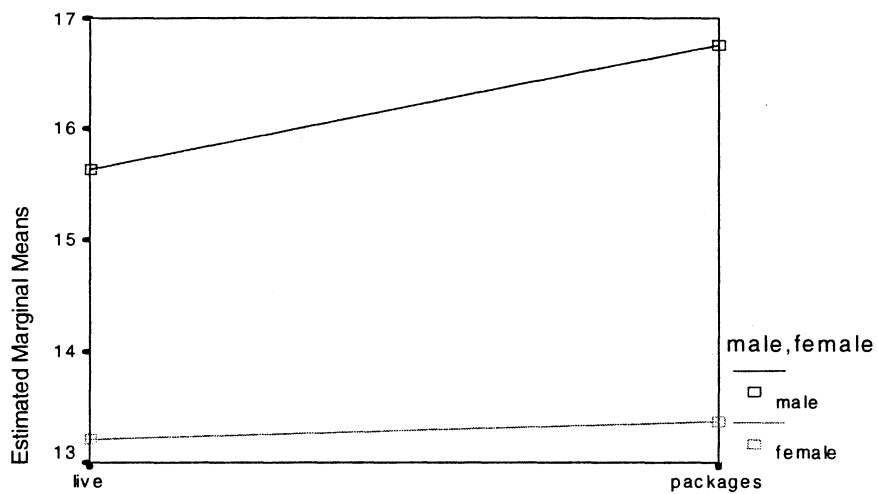


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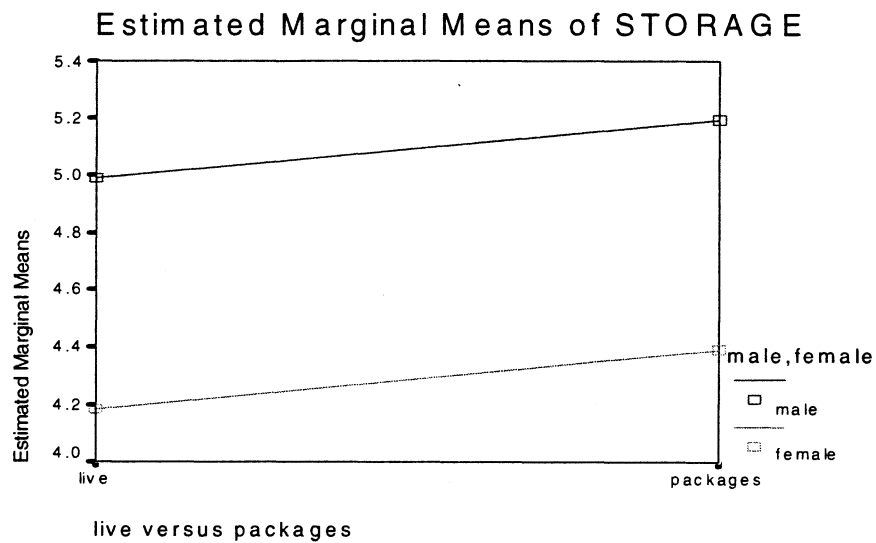
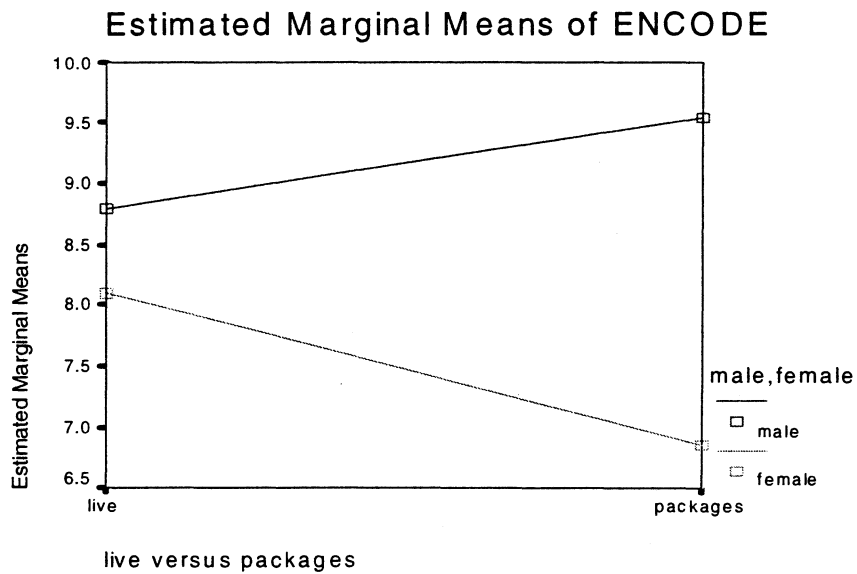
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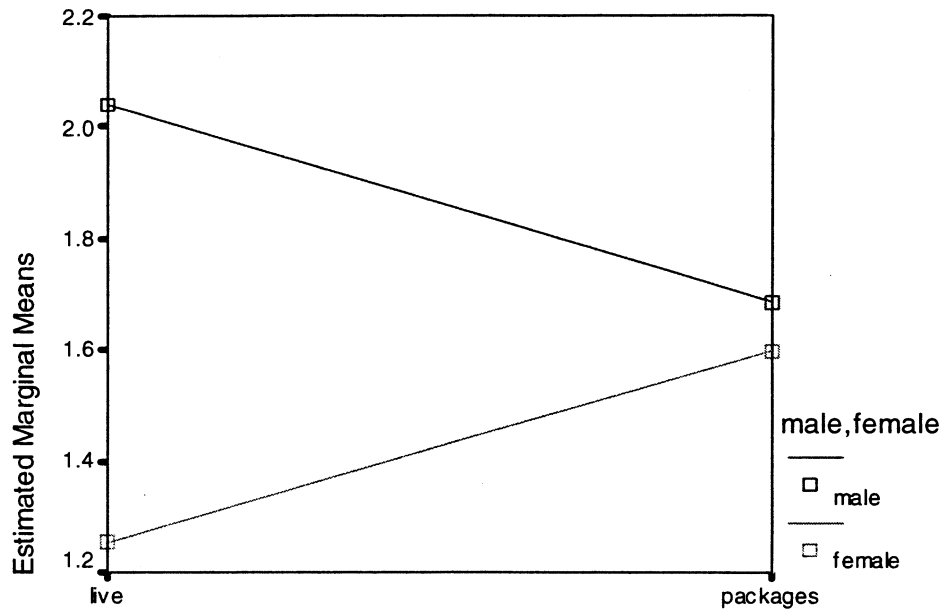
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APPENDIX F

MANCOVA PLOTS BETWEEN MODE OF REPORTING AND GENDER,
CONTROLLING FOR YEAR IN COLLEGE AND ACTIVE GRATIFICATIONS.

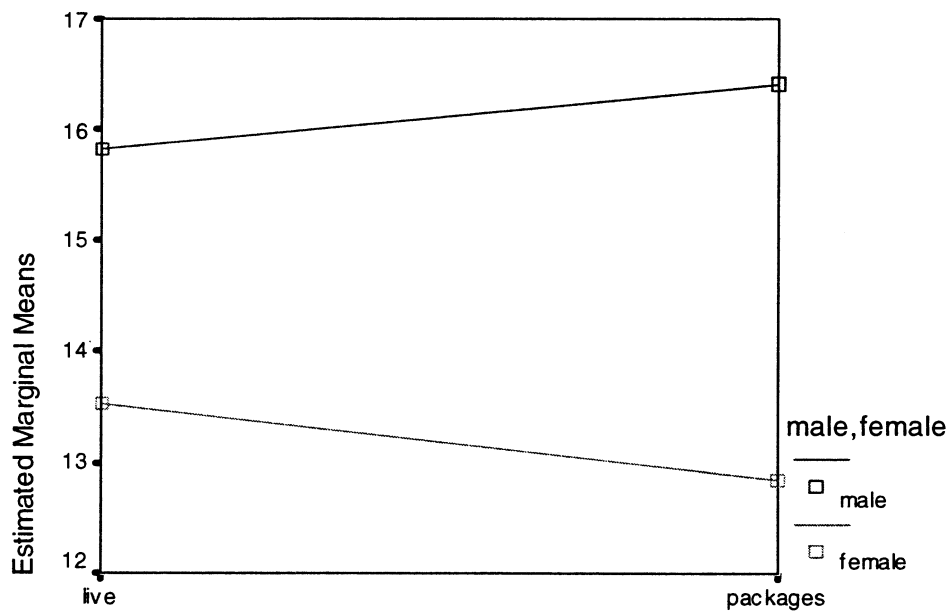


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