THE ROLE OF MOOD ON INFERENTIAL PROCESSING

A Thesis by

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THE ROLE OF MOOD ON INFERENTIAL PROCESSING

The following faculty members have examined the final copy of this thesis for form and content, and recommended that it be accepted in partial fulfillment of the requirement for the degree of Master of Education with a major in Educational Psychology.

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DEDICATION

To my parents, who taught me the value of education
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ABSTRACT

The way a reader comprehends a text is influenced by a number of factors; and one factor that may play a critical role is the reader’s mood. The extant literature documents that happy and sad moods elicit different processing styles, but the effects on reading comprehension processes, specifically inferential processing, are not completely understood. This study examined the effects happy, sad, and neutral moods had on the generation of bridging and predictive inferences. After a video mood induction, participants read texts that supported the generation of inferences but at varying constraint levels (strong, weak, control). Participants then completed a lexical decision task after each text. Response times for the lexical decision task were shortest for texts that were strongly constrained, followed by weakly constrained, and finally control texts. Accuracy for the lexical decision task was greatest for strongly constrained, followed by weakly constrained, and control texts. There was a marginally significant effect of mood, such that happy-induced readers generated more predictive inferences than sad-induced readers.
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CHAPTER 1

INTRODUCTION

Reading comprehension is a fundamental skill for a student’s success in school and for adults to be successful in their everyday lives. Whether following a recipe, reading a magazine, or deriving information from a textbook, reading comprehension is a necessary component for these tasks. The way a reader comprehends a text can depend on a number of factors, such as their goals for reading, which might include whether they are reading to study versus for entertainment (van den Broek, Lorch, Linderholm, & Gustafson, 2001). The type of text also influences comprehension. Expository texts, structures that are commonly used in textbooks, provide the reader with facts and information (Englert & Hiebert, 1984; Gillam, Fargo, & Robertson, 2009; Wolfe & Woodwyk, 2010). Studies have found that expository texts tend to be more difficult to comprehend than narrative texts (Zabrucky & Moore, 1999), or texts where events occur because characters engage in certain actions in an attempt to solve a problem (Gillam, et al., 2009; Wolfe & Woodwyk, 2010).

Another important factor that can affect comprehension is a reader’s mood. Mood appears to influence the specific types of comprehension processes readers employ. One comprehension process, inferential processing, occurs when a reader uses their background knowledge to infer information that was not explicitly stated in the text (Iza & Ezquerro, 2000). When considering mood and comprehension, readers that are induced to feel sad have been found to engage in less text-based inferential processing when thinking about a text when compared with readers that are induced to feel happy (Bohn-Gettler & Rapp, 2011). However, no differences occurred with regard to remembering important information from the text or with the frequency of paraphrasing while reading the text. Other researchers have, however, found that a
sad mood can interfere with a reader’s ability to comprehend a text (e.g. Ellis, Ottaway, Varner, Becker, & Moore, 1997; Ellis, Thomas, & Rodriguez, 1984; Ellis, Varner, Becker, & Ottaway, 1995). If mood can influence a reader’s ability to comprehend a text and the specific processes employed by the reader, will it affect the quality or the quantity of the different types of inferences readers generate during the process of reading?

The importance of understanding factors that influence comprehension extends beyond reading a recipe or comprehending a text, because this collection of knowledge can be useful for creating or improving instructional strategies. As we grow older, the texts we encounter become increasingly difficult; sentence structures become more complicated, and we are exposed to more expository texts (Hogan & Thomson, 2010). Comprehending these increasingly difficult texts is critical for success in academic and vocational settings. This provides support for the notion that information regarding text comprehension is vital for more than just beginning readers and as such it is important to understand the factors that affect processing, as readers continually need to improve.

This study examined the role mood plays in reading comprehension processes. Specifically, this study was concerned about bridging and predictive inferential processing. After participants watched a video clip to induce a happy, sad, or neutral mood, they read strongly constrained texts that promoted the generation of bridging or predictive inferences, weakly constrained texts that were less likely to promote the generation of inferences, and control texts that did not promote the generation of inferences. Following each text, participants completed a lexical decision task in which they were presented with either the target inference word or a nonsense word and decided as quickly as possible if it was a word or a non-word. It was hypothesized that the mood induction procedure would be effective and that response times
would be shorter and more accurate for the strongly constrained texts followed by the weakly
constrained texts, and finally the control texts. It was also hypothesized that mood effects would
only occur for the weakly constrained texts and that happy-induced participants would have
faster, more accurate response times than the sad- and neutral-induced participants.
Models of Text Comprehension

Many researchers have attempted to explain how comprehension occurs. One important theory in describing this is the tri-partite theory (Kintsch, 1994; Kintsch & van Dijk, 1978; Zwaan & Radvansky, 1998). This theory proposes there are three levels of processing a reader can engage in. At the surface structure, which is the most superficial level of processing, a reader encodes the text verbatim to form a mental representation of the text. Readers typically only recall this information for an extremely short period of time. The next level is called the textbase. At the textbase level, the reader encodes the text according to its structure and is capable of recalling the text. However, this is still a superficial representation of learning, as they are not integrating the text with their prior knowledge. This superficial learning is merely “text memory.” Readers sometimes are forced to utilize a textbase representation when they lack adequate background knowledge or if their goals for reading do not support the integration of background knowledge. The deepest level of processing is called the situation model. Here, the reader is integrating the text with their prior knowledge and elaborating beyond the surface of the text. The activation of prior knowledge allows the reader to generate inferences from the text, make predictions, problem solve, and add to their prior knowledge.

For comprehension to be successful, it is important for the reader to create a coherent situation model. When the situation model lacks coherence, comprehension of the text is diminished (Graesser, Millis, & Zwaan, 1997). Coherence occurs when the reader makes meaningful conceptual connections between information presented in the text and with background knowledge. This can occur through local coherence where the reader connects new
information in the text to information from the previous sentence. Global coherence, however, occurs when the reader is able to connect information across the entire text conceptually even when previous information is no longer available in working memory.

Readers can utilize a number of strategies in an attempt to comprehend a text. For instance, individuals will reread portions of the text that are unclear, make inferences when information is missing from the text, and relate the text to their background knowledge or sometimes to a personal experience (Narvaez, van den Broek, & Ruiz, 1999; van den Broek, et al., 2001). Some of these processes can be beneficial for comprehension while others may hinder comprehension. Successful comprehension has been associated with readers who paraphrase the text, make predictions about what will happen next in the text, connect the text to background knowledge, and generate inferences between pieces of information contained within the text (van den Broek, et al., 2001). In addition, to support successful comprehension, inferences should be both relevant and correct (Graesser, Singer, & Trabasso, 1994). Other studies have shown that participants who had the goal of studying the text more frequently reread portions of the text (Narvaez, et al., 1999) and that this is associated with improved recall of a text (Zabrucky & Moore, 1999).

On the other hand, poor comprehension has been associated with readers who make associations using background knowledge, but in a manner that does not help to build a coherent representation of the text (van den Broek, et al., 2001). For example, in reading a scientific text about the migratory patterns of fish, a reader may recall a fishing trip they took. While this is drawing from their background knowledge, it does not contribute to the actual comprehension of the text. van den Broek et al. (2001) also found readers who provided their opinions about the
text, for example “This is a really boring story,” or who superficially reflected on their understanding of the text, such as “I didn’t know that,” tended to recall less of the text.

**Inferential Processing**

Generating inferences is an important process for successful comprehension (Graesser, et al., 1994; Iza & Ezquerro, 2000; Singer, Halldorson, Lear, & Andrusiak, 1992) because inferences allow the reader to use their background knowledge to generate explanations or predictions about information that is implied in the text (Iza & Ezquerro, 2000). Therefore, it is important to consider the different types of inferences readers can generate from a text. Text-based causal inferences (bridging inferences) and knowledge-based inferences (elaborative and predictive inferences) are two types of inferences. For the purposes of this study, the focus will be on bridging and predictive inferences.

Bridging inferences occur when a reader connects or bridges the current sentence to the preceding sentence to explain what was not explicitly stated in the text (Singer, et al., 1992; Virtue, van den Broek, & Linderholm, 2006; Zwaan & Singer, 2003) in an effort to preserve the coherence of their developing situation model (Zwaan & Singer, 2003). As an example, consider the passage below, which prompts the reader to generate a bridging inference:

> “Todd was enjoying a vacation with his friends in the French Riviera. He took off his shirt and shoes, and he went for a walk on the beach. At first, Todd didn’t see all of the beautiful shells in the sand as he waded out into the water. Suddenly he called out to his friends holding his bleeding foot” (Virtue, et al., 2006).

In order for the reader to understand why Todd’s foot was bleeding, the reader should fill in the missing information that Todd likely cut his foot on one of the shells. By arriving at this causal explanation, the reader had to infer this information. The reader must connect the sentence...
about Todd’s bleeding foot to the preceding sentence about the shells. If the reader was unable to
generate this inference, they might not be able to explain why Todd’s foot was bleeding.
Therefore, the reader would not have generated the inference that Todd cut his foot on the shells
to help build a coherent situation model of the text.

In this particular example, a specific type of bridging inference occurred, a causal
bridging inference. When a causal bridging inference is created, the reader has explained an
effect by using previous information provided in the text to determine the unknown cause
(Valencia-Laver & Light, 2000). Such causal relations are critical for text comprehension. When
reading a text, sentences that are connected through cause and effect links are recalled more
often and are rated as more important to the text by readers (Trabasso & Sperry, 1985; Trabasso
& van den Broek, 1985; van den Broek & Trabasso, 1986). These findings offer support that
identifying causal connections actually underlies comprehension; because it appears that causal
connections are what define the important parts of the text.

A second category of inferential processing is elaborative inferences, which are not
necessary for linking two sentences together but rather they are made when the reader elaborates
beyond the text by utilizing background knowledge (Iza & Ezquerro, 2000). The current study
will examine a specific type of elaborative inference: predictive inferences. Predictive inferences
are generated when the reader utilizes background knowledge to predict what will happen next in
a passage (Iza & Ezquerro, 2000; Virtue, et al., 2006). For example, consider the passage below:

“The rival gangs met outside the school yard. Both of the gangs had taken a vow to
become less violent. The neighbors watched as the two gangs shouted back and forth to
one another. Finally, one member went over to the rival gang and put up his fists”
(Virtue, et al., 2006).
This passage prompts the reader to predict that the gangs will start a fight. To arrive at this prediction, the reader could have used the information from the passage and their own knowledge about gangs and fighting. This inference again is a causal inference, but unlike causal bridging inferences, the cause is determined but the effect has yet to occur. So, the reader generates a prediction of what effect is likely to result from the cause.

The most obvious difference between bridging and predictive inferences concerns the direction of the inference. Researchers refer to bridging inferences as backward inferences because they are generated by working backward with information previously supplied in the text (Iza & Ezquerro, 2000; Schmalhofer, McDaniel, & Keefe, 2002; Singer & Ferreira, 1983). Predictive inferences therefore are forward inferences, pulling information from the reader’s background knowledge and working beyond the text. Herein lays a critical distinction between these two types of inferences. Causal bridging inferences are considered necessary for text comprehension because these inferences fill in information from the text that might otherwise make the text incoherent (Iza & Ezquerro, 2000; Schmalhofer, et al., 2002; Singer & Ferreira, 1983; Valencia-Laver & Light, 2000). Unlike bridging inferences, the generation of predictive inferences is not always required for comprehension because these inferences extend beyond the text.

Other distinctions between bridging and predictive inferences concern the number of inferences that are made, as well as the accuracy of the inferences. When generating a predictive inference, there are potentially a countless number of inferences that can be constructed (Singer & Ferreira, 1983). Because of the vast number of possible inferences, generating predictive inferences places a strain on the readers’ already limited cognitive resources (Magliano, Trabasso, & Graesser, 1999). The countless number of inferences that can be drawn from
predictive inferences might explain why the conclusions reached from generating a predictive inference are not always correct (Iza & Ezquerro, 2000). When readers generate an incorrect predictive inference, it might actually hurt comprehension because they are focusing on information that is not accurate.

Although bridging inferences are necessary for comprehension, it requires less effort for the reader to generate these inferences. Predictive inferences elaborate beyond what has been explicitly stated in the text (Guéraud, Tapiero, & O'Brien, 2008) and should therefore be more challenging for the reader to generate these inferences because they are drawing information from their memory and not from the text. A number of researchers have questioned the point at which inferences are generated in reading. Inferences, for example, could be generated “on-line,” meaning during the course reading. Or, they may be generated “off-line,” meaning after reading is completed, as often measured when a person is recalling the text. According to the constructionist theory, when a reader attempts to comprehend a text, inferences are generated “on-line” during comprehension and not “off-line” during recall (Graesser, et al., 1994). Readers will continue to generate inferences on-line to the extent that they are attempting to preserve the coherence of the mental representation of the text (Singer, et al., 1992). Readers are less likely to generate inferences on-line when the reader believes the text lacks global coherence, when the reader lacks adequate background knowledge, or when the reader’s goals do not require them to construct a coherent situation model (Graesser, et al., 1994).

There is substantial evidence to suggest that bridging inferences are generated on-line, however, the research concerning predictive inferences is mixed (Fincher-Kiefer, 1996; Singer & Ferreira, 1983; Singer, et al., 1992; Valencia-Laver & Light, 2000). Some evidence supports the notion that predictive inferences are generated on-line (Fincher-Kiefer, 1996; Valencia-Laver &
Light, 2000) but that due to processing limits (Singer & Ferreira, 1983) these inferences are only generated when they are automatically available (Schmalhofer, et al., 2002). This provides additional support that predictive inferences are constructed less frequently than bridging inferences.

In regards to the encoding of inferences into a reader’s mental representation of the text, Fincher-Kiefer (1996; Valencia-Laver & Light, 2000) found that bridging inferences are encoded immediately into a reader’s textbase in a manner that is identical to the way explicitly stated text is encoded. Predictive inferences are encoded differently. Predictive inferences are held in working memory for a short time where the inference, if consistent with the text, can be integrated into the situation model. The way bridging and predictive inferences are encoded provide evidence that bridging inferences are more necessary to make a coherent textbase representation, whereas predictive inferences are less necessary for comprehension but can aid in the construction of a coherent situation model.

**Mood and Comprehension**

Goals for reading as well as the type of text influence the comprehension processes readers engage in (Narvaez, et al., 1999; van den Broek, et al., 2001; Wolfe & Mienko, 2007; Wolfe & Woodwyk, 2010) to construct a coherent situation model. However, many researchers have not considered the effect mood may have on these comprehension processes. There is a substantial amount of research documenting the role of mood and memory: such as mood-congruent memory (Bower, Gilligan, & Monteiro, 1981; Egidi & Gerrig, 2009) and mood state-dependent learning (Bower, 1981; Bower, Monteiro, & Gilligan, 1978).

Mood-congruent memory refers to when a person is feeling a particular mood; they are inclined to recall more information that matches their current mood state than information that
does not match their current mood state (Bower, et al., 1981; Egidi & Gerrig, 2009). There has also been support for mood state-dependent learning, which is enhanced memory when mood at the time of encoding matches mood at the time of recall (Bower, 1981; Bower, et al., 1978). A mood-state depended learning effect was evidenced in Bower’s (1981) study in which participants learned a list of words in one mood and recalled the list in a different mood or in the same mood as the encoding of the list. He found that participants recalled more words when their mood at the encoding of the list matched their mood at the retrieval of the list. Bower et al. (1981) discovered there was a mood-congruent memory effect that occurred in stories. They found that readers in a happy mood recalled more happy information from the story and readers in a sad mood recalled more sad information from the story. They also wanted to determine if mood induced after reading a text could influence recall. They found that mood induced after encoding had no effect on a participants’ recall. This study demonstrated that mood influences the encoding of text (on-line) and not the recall (off-line).

Although mood appears to influence the encoding of information, it does not guarantee this will always occur. The resource allocation model (Ellis & Ashbrook, 1988) is one approach that attempts to explain the effect mood has on processing strategies. According to this model, readers possess a limited amount of processing capacity that can be allocated to each task, and emotional states can influence this. The authors propose that a sad or depressed mood consumes a portion of the available processing capacity in a given task. In some circumstances, a sad or depressed mood will take away a portion of this capacity but still leave a sufficient amount of capacity for a task. However, when the demands of the task are great or the mood is intense, a sad mood will actually reduce the available processing capacity resulting in a reduction of task-
relevant processing. Sometimes, a sad or depressed mood is assumed to actually increase task-irrelevant processing, leaving less available capacity for processing task-relevant information.

The affect infusion model builds upon the resource allocation model and more clearly defines the task demands that will result in mood influencing processing strategies. According to the affect infusion model (AIM; Forgas, 1995, 2008), mood only has an effect when using certain processing strategies. One processing strategy, “direct access,” occurs when information is already stored in memory and accessed without elaborative processing. For example, this would occur when an adult recalls the author of *Romeo and Juliet* is William Shakespeare. Another processing strategy, “motivated processing” occurs when there is pressure for a particular conclusion. In motivated processing, a student answering an exam question about the character’s last names would need to search their long-term memory to recall Romeo and Juliet’s last names were Montague and Capulet. Affect and emotion are unlikely to affect processing in direct access and motivated processing strategies because these strategies use predetermined information stored in memory without manipulating the information retrieved; therefore requiring little constructive processing.

On the other hand, “heuristic” processing strategies entail conclusions that use predetermined information stored in memory but manipulate this information or use it to construct an inference. Heuristic processing strategies do not pressure for a particular conclusion; however, the judge attempts to arrive at a conclusion using the least amount of effort. For example, in order to use the least amount of effort, people will ask themselves how they feel about a target and use their affective state as a shortcut for inferring their reactions to a particular target. Here, a reader might ask him or herself how a book made them feel to formulate an opinion of the book. However, by using emotions to formulate opinions, current mood states and
biases could influence the opinion they arrive at. Consider, for example, that this book was a reading assignment for class and the student was unable to go to the movies with friends because they had to finish the assignment. A student may ask himself or herself how they felt about the book and infer that they disliked it, but in reality, they were upset they had to finish reading the book rather than spending time with their friends.

“Substantive” processing strategies also do not simply rely on predetermined information stored in memory, rather, they move beyond just retrieving information from memory to thinking about and manipulating information. When using substantive strategies, individuals will select information from the environment and interpret it with motivation to be accurate in their conclusions, in other words, they are motivated to think more deeply. For example, a reader might formulate an opinion of a book by considering the writing structure, the depth of characters, and the quality of the book’s resolution. Contemplating these variables requires deeper thinking than simply asking how they feel about the book; a reader has to search their long-term memory to determine what constitutes good writing structure and evaluate how it compares to the present book. Regardless of their attempts to be accurate in their conclusions when using substantive processing, there is still opportunity for affect infusion. This occurs for a number of reasons. For starters, affect-congruent information receives greater attention and it selects our attention to specific targets. In addition, this affect-congruent information is more likely to be retrieved from memory to help inform judgments. When using heuristic and substantive strategies, affect infusion is likely to occur because both of these strategies require constructive processing; a deeper, less superficial type of processing than what is used in direct access and motivated processing. However, substantive strategies require the deepest, least superficial, types of processing.
According to the AIM, when using constructive processing through heuristic and substantive processing strategies, readers allow mood to influence their judgments and cognitive processes. In general, positive affect is associated with less analytical processing strategies (Bless, 2000; Forgas, 2002; Schwarz & Skurnik, 2003). When in a positive mood, people are likely to reach decisions more quickly, with less information, and feel more confident in their decisions (Forgas, 2002). Studies have shown, for example, that people in happy moods are more likely to rely on stereotypes (Bless, 2000; Schwarz & Skurnik, 2003). Stereotypes are actually a form of heuristic, inferential processing because in applying a stereotype, one is taking information provided from the environment and filling in additional information to create an inference about why a person is engaging in a particular behavior (Sherman, Crawford, Hamilton, & Garcia-Marques, 2007). Stereotypes are created automatically (Devine, 1989); they occur quickly and without all the information needed to form a judgment. Despite negativity associated with stereotyping, positive moods can be beneficial as people in this mood state are likely to be more creative and show increased cognitive flexibility (Forgas, 2002).

Unlike positive affect, negative affect is associated with more analytical processing styles and a decrease in the use of heuristic processing, such as stereotypes (Bless, 2000; Forgas, 2002; Schwarz & Skurnik, 2003). Contrary to happy moods, sad moods are associated with an increase in attention to detail. This can actually interfere with processing because with increased attention to detail they are likely to get distracted by irrelevant details (Schwarz & Skurnik, 2003) and irrelevant thoughts (Gunther, Ferraro, & Kirchner, 1996).

Many studies have looked at off-line processing in regards to mood. Regardless of a person’s mood, the actual emotionality of the information that participants must remember is of great importance. When viewing neutral, pleasant, and unpleasant photos, participants not only
recalled more of the emotional photos (pleasant and unpleasant), but they also had greater
difficulty forgetting them even after receiving explicit instructions to do so (Payne & Corrigan,
2007). The findings concerning the effects of mood on recall of non-emotional materials have
been inconsistent. Perhaps the different findings between the studies about to be discussed can be
explained by the information that was being processed. Some of these studies have used
sequences of unrelated letters (Seibert & Ellis, 1991), sentences (Ellis, et al., 1984; Hettena &
Ballif, 1981), texts (Ellis, et al., 1997; Ellis, et al., 1995), or decorative objects (Forgas,
Goldenberg, & Unkelbach, 2009) as measures of recall. The most likely explanation for these
seemingly inconsistent findings is the depth of processing required in these studies. When
considering the affect infusion model, affect infusion will only occur when using constructive,
less superficial, processing (Forgas, 1995, 2008).

Forgas, Goldenberg, and Unkelbach (2009) have demonstrated that when in a negative
mood, participants were able to recall more items placed around a store’s cash register and did so
with greater accuracy than happy-induced participants. The depth of processing required to
remember these items, however, was minimal. The opposite effect occurred in Hettena and
Ballif’s (1981) study. They found that when recalling sentences, participants in a happy mood
recalled more information from the sentences than those in a sad mood.

Other researchers have found opposing results. In Ellis et al.’s (1997) study their
participants were instructed to identify contradictions in a passage. They found sad-induced
participants identified fewer contradictions in the text and did so with less accuracy than the
neutral-induced participants. There was no measure of the effects of recall and accuracy on
happy-induced participants. The reduction in the recall of sad-induced participants has been
replicated in other studies where participants read sentences and recalled a target word from the
sentence (Ellis, et al., 1984) and when participants recalled idea units from a text (Ellis, et al., 1995). Additionally, Seibert and Ellis (1991) found that when recalling a sequence of unrelated letters, both sad- and happy-induced participants recalled significantly less letters than the neutral-induced participants. All of these studies appear to employ recall tasks that require a deeper level of processing than recalling decorative objects used in Forgas et al. (2009).

While all of these studies explored the effects of mood on off-line processing, few studies have actually explored the effects of mood on on-line processing of a text. Bohn-Gettler and Rapp (2011) had participants think aloud as they read and found that happy-induced participants engaged in more text-based inferential processing, such as bridging inferences, than sad- and neutral-induced participants. However, the frequency of other coherence-building processes like paraphrasing did not differ between the happy- and sad-induced participants. They also found that neutral-induced participants engaged in more non-coherence building processes. When measuring off-line processing through recall, however, they found no differences between happy- and sad- induced participants even though some differences did occur in on-line processing. Unexpectedly, neutral-induced participants actually recalled the fewest important ideas from the text.

It is reasonable to consider that the conflicting results from these studies are a result of the measures of recall and the depth of processing required for each task. Studies that measured recall of decorative objects (Forgas, et al., 2009) required a more shallow degree of processing than studies that measured recall of contradictions in passages (Ellis, et al., 1997), recall of sentences (Ellis, et al., 1984; Hettena & Ballif, 1981), and recall of a text (Ellis, et al., 1995). The way in which memory was measured may also have influenced the results. For example, in Bohn-Gettler and Rapp’s (2011) study, off-line measures of recall were established by the recall
of main ideas in a text and did not look at other factors like the generation of inferences and themes which may have led to different conclusions.

**The Current Study**

Despite all the conflicting evidence of the effect of mood on comprehension, the majority of this research does not utilize reading narrative or expository texts as a measure in their studies. Many researchers examine the role of mood and comprehension by having participants learn and recall a list of words (Bower, 1981), recalling photos (Payne & Corrigan, 2007), or recalling decorative objects placed around a cash register (Forgas, et al., 2009). A few studies have used texts but these studies have generally only looked at off-line processes of the reader (Bower, et al., 1981; Ellis, et al., 1997; Ellis, et al., 1995) and not at on-line processing which occurs when a reader generates an inference (although, see Bohn-Gettler & Rapp, 2011).

This study examined the inferential processes readers use in comprehension of a text and the effect mood had on this process. This study explored the role that happy, sad, and neutral moods had on the production of the quality and quantity of bridging and predictive inferences. To accomplish this, participants watched video clips to induce a happy, sad, or neutral mood. Following the mood induction, participants read a number of texts that prompted the reader to generate a bridging or predictive inference. There were five types of inferences: strongly constrained bridging inferences, weakly constrained bridging inferences, strongly constrained predictive inferences, weakly constrained predictive inferences, and control texts. Strongly constrained texts increased the chance that an inference would be generated, whereas weakly constrained texts were designed to decrease the chance that an inference would be generated (Virtue, et al., 2006). Following each text, the reader completed a lexical decision task where they were presented with a target word (the target inference word) or a nonsense word. The
participant decided if the word that appeared on the screen after each text was an actual word. Response times and accuracy for identifying the words were measured. A faster response time would indicate that the participant generated the inference from the text and therefore could identify the target word as a word or non-word more rapidly. Higher accuracy would indicate that the participant generated the inference from the text and therefore would be more accurate in identification of target words.

In summary of the information presented, three hypotheses were generated. The first hypothesis was that the video mood induction would be effective, such that happy-induced participants would report significantly more positive affect than the sad- and neutral- induced participants and significantly less negative affect than the sad-induced participants. Furthermore, the sad-induced participants would report significantly more negative affect than the happy- and neutral- induced participants and significantly less positive affect than the happy-induced participants.

The second hypothesis was that readers would be more likely to generate inferences for strongly constrained texts compared to weakly constrained texts. This would be indicated by both the response times and accuracy to the lexical decision task. Response times for the lexical decision task would be significantly shorter for both bridging and predictive strongly constrained texts than for the weakly constrained and control texts. Furthermore, the weakly constrained texts would have significantly longer response times than the strongly constrained texts but shorter response times in comparison to the control texts. With regard to the accuracy of responses in the lexical decision task, the opposite effect should occur, such that the strongly constrained texts would elicit more accurate responses than the weakly constrained and control
texts, and the weakly constrained texts would elicit more accurate responses than the control texts.

Finally, the third hypothesis was that there would be an effect of mood on inferential processing as demonstrated in response times and accuracy. These effects would be more likely to occur in the weakly constrained texts (compared to strongly constrained texts) when it is more challenging for the reader to generate an inference. Due to happy-induced participants tendency to engage in more heuristical processing, these readers should have faster response times in the weakly constrained texts in comparison to sad-induced participants, and be more accurate in their responses.
CHAPTER 3

METHOD

Participants

This study utilized 105 participants from introductory psychology courses at Wichita State University. Ten participants had to be removed from the analysis because their mood induction was deemed ineffective, they were non-native speakers, they consistently had response time outliers across the texts, or their accuracy in identifying words and non-words across the texts was below 70 percent. Of those that responded, 31 were male and 69 were female. Caucasians comprised 66.7% of the participants, 9.5% were Asian, 7.6% were African American, and 4.8% were Hispanic. All but one of the participants was an undergraduate student. Forty-one percent of the students were in their first year of their program, 23.8% were in their second year, 12.4% were in their third year, 13.3% were in their fourth year, and 1.9% were in their fifth year. The median age of participants was 20 (M = 23.84). Students received course credit for their participation. All participants were native English speakers except for two who were removed from the analysis as non-native speakers may have added a confounding variable. Non-native speakers could influence the results of this study to the extent that language barriers could influence their responses and this could be confused with the effects of mood.

Materials

Video-Based Mood Induction. Participants were randomly assigned to a happy, sad, or neutral mood condition. To induce a happy, sad, or neutral mood, participants watched 12-minutes of video clips. These clips were viewed from a computer screen with the audio received through headphones while the participant was seated on a couch (Bohn-Gettler & Rapp, 2011). The neutral video included clips from “Alaska’s Wild Denali” (Rottenberg, Ray, & Gross, 2007)
and a clip about the Great Barrier Reef (Cryder, Lerner, Gross, & Dahl, 2008). These video clips contained factual information and images of these topics. The sad video included clips from “The Lion King,” “Return to Me,” “Bambi,” and “The Champ” (Gross & Levenson, 1995; Rottenberg, et al., 2007). The sad clips utilized death scenes from each movie: the death of King Mufasa in “The Lion King,” the tragic death of a husband’s wife in “Return to Me,” the death of a baby deer’s mother in “Bambi,” and the death of a son’s father in “The Champ.” The happy video included clips from “Whose Line is it Anyway?” (Rottenberg, et al., 2007). This video utilized four clips from the show where the actors received unordinary items and had to improvise uses for each of those items.

Positive Affect and Negative Affect Schedule (PANAS-X; Watson & Clark, 1994; Watson, Clark, & Tellegen, 1988). The PANAS-X (see Appendix A) is a questionnaire that assesses a person’s current mood state. Participants rated the degree to which they were experiencing 60 different emotions on a Likert scale of one to five, with one being “very slightly or not at all,” and five being “extremely.” The various emotions group into categories of positive and negative affect. Positive affect is associated with happiness, enthusiasm, activity, and alertness. Negative affect is associated with sadness, anger, contempt, disgust, guilt, fear, and nervousness. The PANAS-X is shown to be a reliable and valid method for assessing mood (Gray & Watson, 2007). It has excellent internal consistency (Cronbach's coefficient alpha: .88 for positive affect and .85 for negative affect; Watson & Clark, 1994), test-retest reliability, generalizability, and convergent and discriminant validity (Watson, et al., 1988).

Inferences. This study utilized four sentence narrative texts that suggested bridging and predictive inferences. These were the same texts utilized in Virtue et al. (2006; see Appendix B-G). In the texts that suggested a bridging inference, the bridging inference occurred between the
third and fourth sentence. In the texts that suggested a predictive inference, the predictive inference occurred when the reader used information from the text to predict what would occur after the fourth sentence. Each bridging or predictive text had both a strong and weak constrained inference version (for examples of all texts, see Table 1). The difference between a strong and weak constrained text concerns the probability that an inference will occur. A bridging or predictive inference is more likely to be generated in the strongly constrained version than in the weakly constrained version (Virtue, et al., 2006).

The study also used control and filler texts that did not elicit an inference. These control texts were four-sentence narratives that did not suggest an inference but that contained similar content to the experimental texts (see Table 1). The control texts were included to provide a baseline of performance. The filler texts were also four-sentence narratives that did not suggest a bridging or predictive inference. The filler texts were paired with non-words for identification in the lexical decision task.
Table 1

<table>
<thead>
<tr>
<th>Sentence Number</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Todd was enjoying a vacation with his friends in the French Riviera.</td>
</tr>
<tr>
<td>2</td>
<td>He took off his shirt and shoes, and he went for a walk on the beach.</td>
</tr>
<tr>
<td>3</td>
<td>At first, Todd didn’t see all of the beautiful shells in the sand as he waded out into the water.</td>
</tr>
<tr>
<td>4</td>
<td>Suddenly he called out to his friends holding his bleeding foot.</td>
</tr>
<tr>
<td></td>
<td>Target word: Cut</td>
</tr>
</tbody>
</table>

Bridging Strongly Constrained
1 Todd was enjoying a vacation with his friends in the French Riviera.
2 He took off his shirt and shoes, and he went for a walk on the beach.
3 At first, Todd didn’t see all of the beautiful shells in the sand as he waded out into the water.
4 Suddenly he called out to his friends holding his bleeding foot.
| Target word: Cut |

Bridging Weakly Constrained
1 Todd was enjoying a vacation with his friends in the French Riviera.
2 He took off his shirt and shoes, and he went for a walk on the beach.
3 At first, Todd didn't see all of the beautiful shells in the sand as he waded out into the water.
4 Suddenly he called out to his friends holding a seashell.
| Target word: Cut |

Control
1 The atmosphere on the remote island was getting tense.
2 The survivors had a hard time getting along with each other.
3 They didn't enjoying sharing the island with the rats.
4 After only two days, a few of the survivors were ready to leave.
| Target word: Cut |

Predictive Strongly Constrained
1 The rival gangs met outside the school yard.
2 Both of the gangs had taken a vow to become less violent.
3 The neighbors watched as the two gangs shouted back and forth to one another.
4 Finally, one member went over to the rival gang and put up his fists.
| Target word: Fight |

Predictive Weakly Constrained
1 The rival gangs met outside the school yard.
2 Both of the gangs had taken a vow to become less violent.
3 The neighbors watched as the two gangs shouted back and forth to one another.
4 Finally, one member went over to the rival gang and put out his hand.
| Target word: Fight |

Control
1 Eric and Zelda decided that they wanted their son to appreciate the mysteries of life.
2 They decided to give him a pet as a birthday present.
3 They put up a sign in town asking if anyone had a baby animal to give away.
4 They got a call from a man who said that his dog was going to have puppies any day.
| Target word: Fight |

Note. A bridging inference occurs by bridging or connecting sentence 4 back to sentence 3. A predictive inference occurs when the reader uses the information from the text to infer what will occur after sentence 4.
To determine if an inference was generated, each text was associated with a target word. The target word was the word that corresponded with the targeted inference in the text (see Table 1). Each strongly or weakly constrained version had identical target words that corresponded to the targeted inference from the strongly constrained text. The control version also utilized these same target words; however, these texts did not elicit the target inference from the reader. Throughout the study, participants were also presented with target non-words that were paired with the filler texts. Target non-words were a string of constants and vowels that did not construct a word (e.g. drend).

The Flesh reading ease of all the texts was 79.3 and the Flesch-Kincaid grade level for all the texts was 5.0. Each participant read a total of 96 of these texts that were counterbalanced into five sets of lists to include bridging strongly constrained, bridging weakly constrained, predictive strongly constrained, predictive weakly constrained, and control texts. Participants read all 48 filler texts. Participants were randomly assigned to one of the five lists. Each of the five text lists were entered into a computer program (E-Prime, Version 2.0) where the texts were randomized to ensure each participant was receiving the texts in a unique order regardless of which of the five lists they received. This helped control for fatigue effects.

**Video Response Survey.** Participants completed a short survey (see Appendix H) to assess their opinions about the mood-induction video clips they viewed. All participants were asked what they thought about the video and were given examples of possible responses. For example, participants that viewed the sad video clips were asked if they recently experienced the death of someone close to them. Participants who viewed the happy video clips were asked if they thought the video was funny or stupid. Finally, participants who viewed the neutral video clips were asked if they thought the videos were boring or interesting. These surveys were used
as manipulation checks to the videos and to assess individual differences in the experience of the video mood-induction.

**Demographic Survey.** Participants completed a short demographics survey (see Appendix I). The survey was designed to determine the age, gender, and ethnicity of each participant. The survey also asked each participant to identify their Native language. This question ensures that only data from Native English speakers was included in the analysis. Finally, the survey asked for each participant’s major, year in his or her current program, and undergraduate or graduate degree status.

**Procedure**

Participants were randomly assigned to either a happy, sad, or a neutral condition. Upon entering the study and giving consent, participants completed a baseline PANAS-X (Watson & Clark, 1994; Watson et al., 1988). Immediately following the baseline PANAS-X, participants watched one of three video clips to induce a happy, sad, or neutral mood. After the 12-minute clip, participants again completed the PANAS-X to determine changes in mood from the video mood induction. Next, participants read 98 texts (Virtue, et al., 2006) from one of the five counterbalanced lists. Using E-Prime (E-Prime, Version 2.0), a stimulus presentation and data collection program, all texts were displayed on a computer screen one sentence at a time. With their right hand already placed on the spacebar, participants clicked the spacebar to proceed to the next sentence. After the fourth sentence, participants clicked the spacebar and the lexical decision task began.

To complete the lexical decision task, first a fixation point in the form of a plus sign (+) appeared on the center of the computer screen. Participants were instructed to fixate on the fixation plus for 750 msec. This was the allotted time used in Virtue et al.’s (2006) study because
this provides the participant sufficient time to focus their vision on the appropriate part of the
screen and to generate an inference. After this time had passed, a target word appeared on the
center of the screen. Participants were instructed to decide as quickly and as accurately as
possible if the target they saw formed a word or not by using the J key, which was labeled “yes,”
or the K key, which was labeled “no.” The ratio of target words and target non-words were
balanced and they appeared randomized throughout the presentation of the texts. Also, for some
of the texts, participants were asked to identify the main idea of the text. This ensured they were
actively reading the texts for comprehension. As this study is embedded into a larger study,
participants also completed an additional mood questionnaire and a working memory task that
for the purposes of this study will not be discussed further. Following the completion of the
inference task, participants completed a video response survey and a short demographics survey
before they were debriefed. Participants who were induced to feel a sad mood watched the happy
video clip before they departed to ensure they left in an elevated mood.
CHAPTER 4

RESULTS

Video-Based Mood Induction Effects

Outlier Removal. Two participants were removed from the analyses because their mood induction was ineffective. The participants’ mood inductions were deemed ineffective because their change scores from the pre- and post- PANAS-X were not in the intended direction. To rule out mental disorders such as depression, pre-mood induction sadness scores were explored. Two participants had unusually high pre-mood induction sadness scores, however, their inclusion in the analysis did not change the results and so they were included in the final analysis.

Happy Mood Induction. To ensure the video mood induction procedure was effective for the happy condition, two 2(Mood: happy, neutral) by 2(Time: pre, post) mixed-design ANOVAs were utilized. When positive affect was the dependent variable, the main effects of pre- and post- mood induction ($F(1, 66) = .97, p > .05, \eta^2 = .01$) and condition ($F(1, 66) = 1.31, p > .05, \eta^2 = .02$) were not significant. However, there was a significant interaction between condition and pre- and post- mood induction, $F(1, 66) = 16.09, p < .01, \eta^2 = .20$. Post-hoc tests showed there were no initial differences in positive affect between the happy and neutral induced participants in the pre-mood induction PANAS-X scores ($p > .05$). Happy-induced participants had significantly greater scores of positive affect on the post-mood induction PANAS-X than the neutral-induced participants, $p = .02$. Happy-induced participants had significantly greater scores of positive affect after the mood induction than they did before the mood induction, $p < .01$. For neutral-induced participants, pre- and post-induction positive affect scores did not differ ($p > .05$).
When the dependent variable was negative affect, there was a significant main effect of pre- and post- mood induction, $F(1, 66) = 48.29, p < .01, \eta^2 = .42$, such that the pre-mood induction negative affect scores were greater than the post-mood induction negative affect scores. The main effect of condition ($F(1, 66) = .16, p > .05, \eta^2 < .001$) as well as the interaction ($F(1, 66) = .001, p > .05, \eta^2 < .001$) were not significant.

**Sad Mood Induction.** To ensure the sad mood induction procedure was effective, two 2(Mood: sad, neutral) by 2(Time: pre, post) mixed-design ANOVAs were utilized. When negative affect was the dependent variable, the main effects of pre- and post- mood induction ($F(1, 64) = 2.40, p > .05, \eta^2 = .04$) and condition ($F(1, 64) = .41, p > .05, \eta^2 = .01$) were not significant. There was a significant interaction between condition and pre- and post- mood induction, $F(1, 64) = 27.71, p < .01, \eta^2 = .30$. Post-hoc tests showed that there were no initial differences in negative affect between the sad- and neutral- induced participants in the pre-mood induction PANAS-X scores ($p > .05$). Sad-induced participants had significantly greater scores of negative affect on the post-mood induction PANAS-X than the neutral-induced participants, $p < .01$. Sad-induced participants had significantly greater scores of negative affect after the mood induction than they did before the mood induction, $p = .02$. Neutral-induced participants had significantly greater scores of negative affect before the mood induction than they did after the mood induction, $p < .01$

When positive affect was the dependent variable, there was a significant main effect of pre- and post- mood induction, $F(1, 64) = 23.02, p < .01, \eta^2 = .27$, such that the pre- mood induction positive affect scores were greater than the post- mood induction positive affect scores. There was no significant main effect of condition, $F(1, 64) = .45, p > .05, \eta^2 = .01$. There was a significant interaction between condition and pre- and post- mood induction scores, $F(1, 64) =
5.30, \( p = .03, \eta^2 = .08 \). Post-hoc tests revealed that sad-induced participants had significantly greater pre-mood induction positive affect scores than post-mood induction scores, \( p < .01 \). None of the other comparisons were significant.

These results indicate that the mood-induction procedure was effective (see Table 2, Appendix J, for the means and standard deviations of the pre- and post- PANAS-X scores).

**Inference-Related Response Time Effects**

Response times and accuracy for the target words were collected from the lexical decision task. To determine inference-related response time, the response times, in milliseconds, for each type of text were collected (Virtue, et al., 2006). Any response below 50 milliseconds was considered an outlier. Accuracy was calculated as the number of correct responses in terms of identifying words versus non-words. Any participant who had an accuracy level below 70% was considered an outlier. Four participants were removed based on this criterion. An alpha level of .05 was used as the criterion level of significance. Two participants were removed for being non-native speakers and two were removed for consistently having response time outliers across the different texts.

To determine the effect of mood on response time, 3(Mood: happy, sad, neutral, between subjects) by 3(Constraint: strong, weak, control, within subjects) mixed ANOVAs with response time as the dependent variable were employed. One ANOVA was run for the bridging inference texts, and another ANOVA was run for the predictive inference texts.

For the bridging texts, there was a significant main effect of constraint, \( F(2, 186) = 48.11, p < .01, \eta^2 = .34 \). Post-hoc tests indicated that the reaction times for the strongly constrained texts were significantly shorter than the weakly constrained (\( p < .01 \)) and control (\( p < .01 \)) texts. The reaction times for the weakly constrained texts were significantly shorter than the control texts, \( p \)
= .05 (see Table 3, Appendix J, for means and standard deviations). The main effect of mood condition \( (F(2, 93) = 1.08, p > .05, \eta^2 = .02) \) as well as the interaction \( (F(4, 186) = 1.13, p > .05, \eta^2 = .02) \) were not significant.

For the predictive texts, there was a significant main effect of constraint, \( F(2, 186) = 35.75, p < .01, \eta^2 = .28 \). Post-hoc tests indicated that the response times for the strongly constrained texts were significantly shorter than the weakly constrained \( (p < .01) \) and control \( (p < .01) \) texts. The reaction times for the weakly constrained texts were significantly shorter than the control texts, \( p < .01 \). The main effect of mood condition was not significant, \( F(2, 93) = .54, p > .05, \eta^2 = .01 \).

The interaction between constraint and mood condition was not statistically significant, however \( F(4, 186) = 2.16, p = .075, \eta^2 = .04 \) (see Table 4, Appendix J, for means and standard deviations). Because the effect was marginally significant, and because the Bonferroni correction was not used for the post-hoc analyses, the post-hoc analyses should be interpreted with caution. Post-hoc paired samples t-tests showed the happy-induced participants’ response times for the strongly constrained \( (t(31) = 3.67, p < .01) \) and the weakly constrained \( (t(31) = 3.15, p < .01) \) texts were significantly shorter than the control texts. There was no significant difference for happy-induced participants between the strongly and weakly constrained texts \( (p = .40) \). This indicates that happy-induced participants were equally likely to generate the predictive inference in strongly and weakly constrained texts.

Sad-induced participants’ response times for the strongly constrained texts were significantly shorter than the weakly constrained \( (t(30) = 4.87, p < .01) \) and control \( (t(30) = 7.27, p < .01) \) texts. There was no significant difference for sad-induced participants between the weakly constrained and control texts \( (p = .21) \). This indicates that sad-induced participants were
more likely to generate the predictive inference for strongly constrained texts, but were less likely to do so for weakly constrained and control texts.

Neutral-induced participants’ response times for the strongly constrained texts were significantly shorter than weakly constrained ($t(32) = 2.81, p < .01$) and control ($t(32) = 3.70, p < .01$) texts. For neutral-induced participants, the response times for the weakly constrained texts were also significantly shorter than the control texts ($t(32) = 2.15, p = .04$). This indicates that neutral-induced participants were more likely to generate the predictive inference for strongly constrained texts, but were less likely to do so for weakly constrained and control texts.

**Accuracy Response Effects**

To determine the effect of mood on accuracy of responses, 3(Mood: happy, sad, neutral, between subjects) by 3(Constraint: strong, weak, control, within subjects) mixed ANOVAs with accuracy as the dependent variable were employed. Again, separate ANOVAs were run for bridging versus predictive inference texts.

For the bridging texts, sphericity could not be assumed ($p < .05$), so Greenhouse-Geisser was used. There was a significant main effect of constraint, $F(1.239, 110.303) = 6.28, p < .01$, $\eta^2 = .07$ (see Table 3, Appendix J, for means and standard deviations). Post-hoc tests revealed that the accuracy for strongly constrained texts was greater than the weakly constrained ($p = .03$) and control ($p < .01$) texts. The accuracy for the weakly constrained texts was also greater than the control texts ($p = .03$). The main effect of mood condition ($F(2, 89) = .41, p > .05, \eta^2 = .01$) as well as the interaction ($F(2.479, 110.303) = .29, p > .05, \eta^2 = .01$) were not significant.

For the predictive texts, sphericity could not be assumed ($p < .05$), so Greenhouse-Geisser was used. There was a significant main effect of constraint, $F(1.071, 95.358) = 6.87, p < .01, \eta^2 = .07$. Post-hoc tests revealed that the accuracy for strongly constrained texts was greater
than the weakly constrained ($p = .03$) and control ($p = .01$) texts. The accuracy for the weakly constrained texts was also greater than the control texts ($p = .01$). The main effect of mood condition ($F(2, 89) = .10, p > .05, \eta^2 = .002$) as well as the interaction ($F(2.143, 95.358) = .67, p > .05, \eta^2 = .02$) were not significant (see Table 5, Appendix J, for means and standard deviations).
CHAPTER 5
DISCUSSION

The goal of this study was to determine the effects of mood on inferential processing. The first hypothesis, that the mood induction procedure would be effective, was supported. Happy-induced participants demonstrated significantly higher scores in positive affect and significantly lower scores in negative affect after the mood induction. Sad-induced participants demonstrated significantly higher scores in negative affect and significantly lower scores in positive affect after the mood induction. Neutral-induced participants had no change in positive affect from pre- and post-mood induction; however, they did have significantly less negative affect after the mood induction. These results confirm the mood induction procedure was effective. This further adds to the current literature supporting the use of video mood induction as an effective means of mood manipulation (e.g. Bohn-Gettler & Rapp, 2011; Cryder, et al., 2008; Gross & Levenson, 1995; Rottenberg, et al., 2007).

The second hypothesis, which stated that participants would be more likely to generate inferences in the strongly constrained as compared to the weakly constrained texts, was supported. The results show that for both bridging and predictive inferences, readers were more likely to generate inferences for strongly constrained texts than all other texts; they were also more likely to generate inferences for the weakly constrained texts than for the control texts. The same effect was found for accuracy such that readers were more accurate in identifying words versus non-words for strongly constrained, followed by weakly constrained, and finally followed by control texts.

These findings are consistent with Virtue et al. (2006) and provide information about how readers generate inferences in a text. In order to maintain a coherent situation model, a reader
needs to generate appropriate inferences (Graesser, et al., 1997). However, not all inferences are necessary for coherence. Consider the example previously discussed about Todd standing in the water with seashells and suddenly calling out to his friends holding his bleeding foot. Generating the inference “cut” is critical for maintaining the coherence of this text. Consider than the weakly constrained version of this text:

“Todd was enjoying a vacation with his friends in the French Riviera. He took off his shirt and shoes, and he went for a walk on the beach. At first, Todd didn't see all of the beautiful shells in the sand as he waded out into the water. Suddenly he called out to his friends holding a seashell.”

In the weakly constrained version, it is not necessary to generate the inference “cut” to maintain the text’s coherence. If, however, the text continued with “His friends couldn’t believe how much blood there was,” a good reader could go back and generate the inference “cut.” To support successful comprehension, inferences should be both relevant and correct (Graesser, et al., 1994). Generating irrelevant inferences could distract the reader if they constantly have to update their situation model because they made incorrect inferences. The results of this study indicate that readers were more likely to generate inferences when they were critical to maintaining text coherence, and less likely to generate inferences that were less critical for maintaining coherence in the text.

The third hypothesis stated that happy-induced participants should have faster response times for weakly constrained texts than sad-induced participants. This hypothesis was partially supported. Although the results were not statistically significant, $p$ was approaching significance ($p = .075$). Neutral-induced participants followed the pattern that they were more likely to generate inferences in the strongly constrained, followed by the weakly constrained, and the
control texts. Sad-induced participants were more likely to generate inferences for the strongly constrained texts but did not distinguish between the weakly constrained and control texts. Happy-induced participants were more likely to generate inferences for the strongly and weakly constrained texts compared to the control.

These results indicate that happy-induced readers were the most likely among all participants to generate predictive inferences; they generated inferences in the weakly constrained texts to the same degree as the strongly constrained texts. Neutral-induced participants were less likely to generate inferences compared to the happy-induced readers; however, they still generated more inferences in the weakly constrained texts than in the control texts. Sad-induced participants were the least likely to generate inferences out of all participants; there were no differences in inference generation between the weakly constrained texts and the control texts. The third hypothesis stated that differences would occur in the weakly constrained texts, which is where the readers differentiated in their likelihood of generating an inference. Even though the effects were marginally significant that happy-induced readers engaged in more inferential processing, this is consistent with Bohn-Gettler and Rapp (2011).

**The Affect Infusion Model**

This study provides further insight into the effects of mood on comprehension processes, and the findings are congruent with prior research. The AIM states that affect infusion only occurs when there is constructive processing (Forgas, 1995, 2008). Predictive inferences use constructive processing because they require readers to extend beyond the text and utilize their background knowledge (Guéraud, et al., 2008). However, since this can cause processing limits (Singer & Ferreira, 1983), these inferences are usually only generated when they are automatically available (Schmalhofer, et al., 2002) as in the strongly constrained texts. As such,
inferences in the strongly constrained texts should be generated automatically requiring little constructive processing for inference generation. Therefore, there should not be differences between participants in the generation of strongly constrained inferences. Because generating an inference in the weakly constrained texts requires readers to extend beyond the text, and because these inferences are not automatically available, these texts should require constructive processing. As such, differences between participants in generating inferences in the weakly constrained texts should occur. Although the findings were marginally significant, mood-based effects were only found for the predictive weakly constrained texts, and not for the strongly constrained, or control texts. This lends further support for the AIM.

Furthermore, research demonstrates that participants experiencing a happy mood tend to reach decisions more quickly and with less information (Forgas, 2002). Happy-induced participants were more likely to generate weakly constrained inferences despite there being less information to elicit an inference. This interaction between mood and constraint were not present for the bridging inference texts. Bridging inferences do not extend beyond the text (Guéraud, et al., 2008), and thus should be easier to generate because all the information needed to generate these inferences is located in the text itself, and not from background knowledge. Again, not seeing mood effects for bridging inferences aligns with the AIM because while these inferences utilize constructive processing, it is an easier form of the processing needed to generate predictive inferences. However, these results were marginally significant, and need to be interpreted with caution. Regardless, these findings do not warrant neglect. Given the literature concerning the effects of mood on comprehension (e.g. Bohn-Gettler & Rapp, 2011; Ellis, et al., 1997; Ellis, et al., 1995; Forgas, 1995, 2008) it is unlikely that these findings were due to chance. Instead, what needs to be considered is why these effects were only marginally significant. This
study did not control for individual variables such as working memory (see Bohn-Gettler & Rapp, 2011; Schmeichel, Volokhov, & Demaree, 2008). Perhaps working memory could have been a moderating variable.

**Working Memory**

An important individual characteristic of the reader that needs to be considered is working memory. Working memory is a person’s capacity to mentally manipulate information they are currently perceiving in a given task (Just & Carpenter, 1992; Miller, 1956). Working memory has been shown to be related to comprehension. For instance, readers with high working memory are better at allocating their mental resources to relevant information in a text (Kaakinen, Hyönä, & Keenan, 2003) and require less processing time to generate predictive inferences (Estevez & Calvo, 2000). If high working memory readers have better control over allocating their resources to relevant information in the text, they should be more likely to generate inferences that are necessary for comprehension because they have greater mental resources to do so. But, they should also be less likely to generate inferences that are not critical for comprehension. In the context of this study, high working memory readers should show a stronger distinction between strongly constrained, weakly constrained, and control texts than those with low working memory.

Not only is working memory related to inference generation, high working memory is associated with increased emotion regulation skills (Schmeichel, et al., 2008). Because readers with high working memory may be able to regulate their emotions, they may be less affected by the mood induction, and therefore, the effects of mood on inferential processing may be more pronounced for readers with low working memory. This would be consistent with Bohn-Gettler and Rapp’s (2011) finding that readers with low working memory showed differences in
inferential processing as a function of mood. In the context of this study, high working memory readers across the mood conditions should show the same pattern of inference generation. On the other hand, low working memory readers should show differing patterns of inference generation as a function of their mood condition.

**Implications**

It is important to understand the effect of mood on comprehension because reading is a major component of everyday life. For example, imagine the disastrous consequences of being incapable of comprehending the directions on a medicine bottle because the feeling of sadness is detracting your attention from comprehending the dosage instructions. There are many processes that are important for successful comprehension (van den Broek, et al., 2001); however, inference generation is the only process that fills in missing pieces of the text. Imagine the difficulty a student would face in reading a novel for class if they struggle with generating inferences. They would be unable to establish local coherence and their understanding of the text would be diminished.

The current research provides insight into understanding the effect mood can have on the on-line processing of a text. Most of the research concerning mood focuses on memory for word lists (Bower, 1981; Bower, et al., 1978), sentences (Gunther, et al., 1996; Hettena & Ballif, 1981), or pictures (Payne & Corrigan, 2007). Few of these studies have examined the role of mood on memory for a complete text (although see Bower, et al., 1981; Ellis, et al., 1997; Ellis, et al., 1995). Furthermore, many researching mood have overlooked the on-line processing of reading a text (although see Bohn-Gettler & Rapp, 2011). This study contributes to a unique body of research documenting the role of mood in the moment-by-moment processing of inferences.
One strength of this study was that it utilized validated measurements. The video mood induction and PANAS-X are both validated procedures for inducing and assessing moods (Cryder, et al., 2008; Gross & Levenson, 1995; Rottenberg, et al., 2007; Watson & Clark, 1994; Watson, et al., 1988). Furthermore, the texts used for this study were created to promote bridging and predictive inferences and have been validated in previous research (Virtue, et al., 2006).

A second strength of this study is the research design. The study was designed to test the effectiveness of the mood induction procedure; therefore ensuring participants experienced the intended mood. This ensured that any mood related effects were a result of the intended mood and not their mood upon arrival to the study.

**Future Directions**

The texts used in this study were short in that they were only four sentences long, which made it possible to collect more data about one specific type of comprehension process. Future studies, however, should explore the effects of mood on the generation of bridging and predictive inferences using more naturalistic texts. Novels, textbooks, newspapers, and magazine articles are texts encountered in everyday life and are much longer than four sentences. While longer, novels, newspapers, and magazine articles would have similar content to the texts used in this study, so inferences should be generated in relatively the same manner. However, inferential processing that occurs while reading textbooks may differ as a function of a reader’s background knowledge. Future studies should utilize a variety of longer texts to ensure these results replicate to texts that are encountered in everyday literature.

Furthermore, this study only explored one type of comprehension process – inference generation. While inferential processing is important to text comprehension, it is only one process needed to comprehend the text. Future studies should explore the effect mood has on
both the critical processes needed for comprehension and processes that are associated with poor comprehension. For example, a sad-induced reader’s distraction to irrelevant thoughts (Gunther, et al., 1996) could cause them to utilize background knowledge that does not aid in coherence of the text, therefore reducing their comprehension. In addition, happy-induced reader’s tendency to reach decisions more quickly, with less information, and with more confidence in their decisions (Forgas, 2002) could prevent these readers from monitoring their comprehension of the text. Together this information will provide a more complete picture of how mood influences reading comprehension.

In addition, future studies should continue to utilize a variety of methodologies in an effort to provide converging evidence. The lexical decision task used in this study provided a different way to examine the inferential processing that occurs during reading. Bohn-Gettler and Rapp (2011), for example, employed a methodology in which they had participants think out loud as they read. While beneficial, thinking aloud could promote processing that may not naturally occur during the reading process (Magliano & Graesser, 1991) because readers do not normally stop after each sentence to share their thoughts out loud. However, lexical decision tasks also have certain limitations. These tasks theorize that faster response times for identifying words and non-words indicate that readers generated an inference. However, perhaps other factors could be at play such as individual differences in reading skill. Despite the limitations, lexical decision tasks are a beneficial methodology because they provide quick and consistent measurements that are less susceptible to bias in the data coding. Despite the limitations of these methodologies, in combination, they provide converging evidence for the effect of mood on inferential processing. Future studies should continue to explore the use of a variety of different methodologies that may include perceptual identification tasks, eye tracking, reading time
measures, narrative retelling, and response times for questions following the generation of an inference. Collectively, this will provide a clearer representation of mood’s effect on comprehension processes.

Future research should also consider individual characteristics, such as working memory. Because working memory is related to the time it takes to generate a predictive inference (Estevez & Calvo, 2000) as well as the information a reader attends to in a text (Kaakinen, et al., 2003), this individual characteristic is important in any research concerning reading comprehension. Despite the many possible research designs that can provide converging evidence for the effect of mood on comprehension processes, this study provided unique findings by isolating a single comprehension process. This study was able to examine mood and inferential processing with a more controlled methodology than what previous research has utilized.

Practically, this study lends support to the notion that mood influences reading comprehension processes. In educational settings, students gather daily in classrooms, each experiencing their own range of moods and emotions. Likewise, classrooms can establish particular affective environments that could potentially have an effect on learning. Considering the influence mood can have on comprehension strategies, it is important to have teachers cultivate positive classroom environments in which students can benefit. Students who experience these positive classroom environments can benefit from creativity and increased cognitive flexibility enabling them to approach tasks like problem solving and writing in new ways.
References


E-Prime. (Version 2.0) [Computer Software]. Sharpsburg, PA: Psychology Software Tools, INC.


APPENDIXES
This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way at this very moment. Use the following scale to record your answers:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>very slightly or not at all</td>
<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td>extremely</td>
</tr>
</tbody>
</table>

- cheerful
- disgust
- content
- attended
- bashful
- sluggish
- daring
- surprised
- strong
- scornful
- relaxed
- irritable
- delighted
- inspired
- fearless
- disgusted
- with self
- sad
- calm
- a little
- tired
- amazed
- shaky
- happy
- timid
- alone
- alert
- upset
- angry
- bold
- blue
- shy
- drowsy
- angry at self
- enthusiastic
- downhearted
- sheepish
- distressed
- blameworthy
- determined
- frightened
- astonished
- interested
- loathing
- confident
- energetic
- concentrating
- dissatisfied
- with self
APPENDIX B

BRIDGING INference – STRONGLY CONSTRAINED TEXTS

121 It was Mother's Day, and Leah wanted to do something nice for her mother. Leah wrote a poem about how special her mother was to her. After reading her mother the beautiful poem, Leah looked over at her mother. She reached in her pocket and pulled out a Kleenex. How likely is it that Leah's mother cried?

105 Jimmy was playing baseball with his neighborhood friends. He got excited when it was his turn at the plate. After hitting the ball, Jimmy watched as the ball hit a parked car. Jimmy looked at the damage on the car door. How likely is it that Jimmy dented the car?

137 Mandy and Stacy were terribly late arriving at the London train station. To make matters worse, they saw a huge crowd of people standing in front of their train. Approaching the crowd, they knew that they absolutely could not miss the last train home. Forced to be assertive, they were soon past the crowd. How likely is it that Mandy and Stacy pushed through the crowd?

101 Walter was playing with his toy airplane next to the living room window. He liked to pretend that it was a high speed jet and could fly over 500 miles per hour. As Walter was playing with his toy airplane, it flew out of the third-floor window. Walter looked at all of the pieces of his toy airplane on the street below. How likely is it that Walter's toy airplane broke?

109 Mildred was struggling to stay alert as she drove through the forest. She smoked a cigarette to combat the monotony of the long drive. After she finished her cigarette, she pitched it out of the car window. Her action destroyed the once beautiful forest. How likely is it that Mildred started a fire?

129 Patty met her friend for lunch at a picnic table outside. She grabbed a sandwich and an apple from her bag. As she bit into her apple, she noticed it had a big bruise on it. Her friend then saw a small chunk of the apple land in the wastebasket. How likely is it that Patty spit out the apple?

133 Hugo made pizzas for a living, but really aspired to do something more creative. After work, Hugo went to the park near his apartment. He saw a beautiful sunset over the lake and took out his pad of white paper. After several minutes, the beauty of the sunset was expressed in his brushstrokes. How likely is it that Hugo painted?

141 Statistics was Steve's worst subject in school, but he studied hard for his exam today. Steve took out his calculator and he began his exam. The next day, the teacher handed back the students' exams. When Steve saw his graded exam, he knew that he would have to retake the course. How likely is it that Steve failed the course?

117 This was Mr. William's first time teaching high school history. As he lectured, he noticed the class seemed restless that day. As he bent over to pick up a piece of chalk, he noticed a large hole in the seat of his pants. Mr. Williams spent the next several minutes calming the rowdy class down. How likely is it that the class laughed?
Rachel was constantly watching her diet because she competed in beauty contests. At dinner with her family, she looked at all of the food in front of her. Apprehensively, Rachel took a large spoonful of her chicken soup. Luckily, her brother performed the Heimlich procedure.

How likely is it that Rachel choked?

The fussy baby was placed in her highchair. A bib with a picture of Barney was placed around her neck. Her mother set down a plate of mashed carrots in front of the baby. After only 5 minutes, the baby was full.

How likely is it that the fussy baby ate?

Marie had a big final exam tomorrow and needed to study all night. She worked for an hour and then decided to relax. Marie walked to the couch and started watching television. Suddenly she realized that it was morning, and she had to leave for her final exam.

How likely is it that Marie fell asleep?

Don was building a tree house for his youngest son. He was now staining the wood on the tree house door. Don was almost done when his shirt got stuck in the door. Don saw that his sleeve needed to be repaired.

How likely is it that Don has a tear in his sleeve?

Julie reclined on the sofa to read the newspaper in her living room. It was Sunday, so she could spend extra time reading the paper. The room was slightly darker than she liked, so she stood up. She found that she could see much better with the sunshine coming in from the blinds.

How likely is it that Julie opened the blinds?

Tom and his colleague, Tanya, were out to lunch at Sammy Wong's Restaurant. The waiter promptly served Tanya her lunch. Her eyes grew wide when she saw a cockroach in her food. The entire restaurant was surprised by the loud noise she made.

How likely is it that Tanya screamed?

Fido was a cocker spaniel that loved to fetch sticks around the yard. Fido's owner let him outside to play in the yard. The dog became very excited as he saw the neighbor's German shepherd approach the fence. Next, the owner had to walk over to quiet the dog.

How likely is it that Fido barked?

Henry was very absentminded. He rarely looked where he was going. Today he was in a hurry to get home and he didn't see the mud on the sidewalk. Henry felt silly when everyone saw him land on his bottom.

How likely is it that Henry slipped?

Seymour had lived in the same place for 10 years, and there was a lot of junk in his garage. It was full of sentimental photographs, books, and old clothes. Seymour entered the garage with a large box. After a few hours, Seymour thought the garage looked spotless.

How likely is it that Seymour cleaned the garage?

The basketball player raced down the court dribbling the ball. He stood nearly 7 feet and was an average player. He sailed through the air as he approached the rim. He listened to the cheering crowd as 2 points were added to his team's total.
138 Annie felt invincible when she was in her boxing class. Learning how to box really improved her strength and self-esteem. Today the class chose partners to practice their moves. The nose of Annie's partner became swollen. How likely is it that Annie punched her partner? __________

122 Greg decided to try a game of horseshoes in the park today. He had seen other people play horseshoes, but had never actually tried it himself. After arriving at the park, Greg picked up his horseshoe. Greg was amazed that his horseshoe landed right in front of the metal post. How likely is it that Greg threw the horseshoe? __________

102 Todd was enjoying a vacation with his friends in the French Riviera. He took off his shirt and shoes, and he went for a walk on the beach. At first, Todd didn't see all of the beautiful shells in the sand as he waded out into the water. Suddenly he called out to his friends holding his bleeding foot. How likely is it that Todd cut his foot? __________

146 It had been raining for several days, and Stacy's car was covered in mud. Stacy's car was so dirty that her friends were embarrassed to be seen in it. One day, she went outside to examine the mud on her car. After some effort, the car looked like new. How likely is it that Stacy washed her car? __________

106 Jason took his small, wooden sailboat out on the lake. He was enjoying the air as the boat cruised through the water at a brisk speed. Jason was surprised when he felt the boat hit a rock. Later, only the top of the sailboat could be seen in the water. How likely is it that the boat sank? __________

135 Brian was depressed because he knew that he made a huge mistake in his relationship. Brian's girlfriend was angry because he took one of her friends out to dinner. After several days of not returning his phone calls, his girlfriend finally called him back today. After Brian hung up the phone, he felt grateful as he looked at her photo. How likely is it that Brian's girlfriend forgave him? __________

147 Grandma Rupert was preparing her coffee table for a game of bridge with her friends. She took out her favorite antique tablecloth from the closet. As she spread out the tablecloth, she saw that there were cake crumbs still on the table. Grandma Rupert shook out her damp cloth full of crumbs. How likely is it that Grandma Rupert wiped the table? __________

103 The two boys planned to meet on the playground after school. One of the boys was upset because the other boy teased him in class about his big ears. They looked at each other as they walked toward the playground. The boys ended up with many injuries. How likely is it that the boys fought? __________

115 Suzie's parents were worried that she would get restless on the road to Los Angeles. Fortunately, little Suzie was kept entertained with her coloring books in the back seat. Once they arrived at their destination, Suzie left her crayons and coloring books on the back seat. After returning to the car, Suzie's parents saw a pool of colored wax on the back seat. How likely is it that Suzie's crayons melted? __________

139 Timmy was celebrating his 5th birthday. He unwrapped his last present and was thrilled to see that it was a pair of rollerblades. Timmy decided to try out his rollerblades on the busy street outside their house. Luckily, his kneepads protected him from the concrete street. How likely is it that Timmy fell? __________
Alan was the friendliest guy in his office. Tonight he was having a big party for his co-workers. The party wasn't as lively as he wanted, so he put on an upbeat song and brought in the keg. Alan's feet were sore the next morning.

How likely is it that Alan danced?

___________

A Canadian tour group stepped off the bus and onto one of the most gorgeous beaches in Florida. Most of them had never been this far south, and were excited about exploring the beach. A few of the tourists laid down on their towels on the sunny beach. After only one hour, they were pink and could barely move.

How likely is it that the tourists got sun burned?

___________

Claudia was hunting around in her great aunt's kitchen closet. She found several jars with different contents that looked very pretty. One of them looked especially fragile, so she removed the lid and discovered it contained pepper. Next, Claudia quickly reached for a tissue.

How likely is it that Claudia sneezed?

___________

The bride walked into the chapel and she couldn't believe that today was the big day. She was extremely nervous about her wedding ceremony. Near the end of the ceremony, the bride suddenly felt uneasy. Luckily, the groom was there to pick her off the floor.

How likely is it that the bride fainted?

___________

Krista and Tom were standing together as they waited for the doctor to return. Both of them were nervous about the results of Krista's physical exam. Krista turned toward Tom as the doctor told them they would be parents soon. Krista saw that her reaction left a lipstick mark on Tom's face.

How likely is it that Krista kissed Tom?

___________

Brad was looking for a present for his wife's birthday. He didn't have a lot of money, but he wanted to find something special for her. Brad went to the jewelry department and saw a gold watch on the counter. As he quickly left the store, he had the expensive watch in his pocket.

How likely is it that Brad stole the watch?

___________

Penny was extremely worried that Dave would meet another girl. Dave tended to flirt with other women which made Penny very uncomfortable. As they walked to the store, Penny saw Dave's eyes follow an attractive woman down the street. Dave's left cheek was soon bright red.

How likely is it that Penny slapped Dave?

___________

Steven was taking a tour of the Grand Canyon by donkey. As it grew dark, Steven was ready to tie a pack to his donkey. He lifted his pack and approached the donkey from behind. Steven swore as he hopped around holding his shin.

How likely is it that the donkey kicked Steven?

___________

Little Bonnie had not been allowed to go outside yesterday because the weather had been bad. She hoped to be able to play with her friends outside this morning. As the sun came up, Bonnie looked out her bedroom window to check the weather conditions. Bonnie saw that it looked nice for sledding outside.

How likely is it that it snowed outside?

___________
Sammy Junior was always getting into trouble at home. Earlier that day, he made mud pies on his mother's new living room carpet. After seeing the muddy carpet, his mother charged into Sammy Junior's room. For the rest of the day, Sammy Junior's rear end hurt.

How likely is it that Sammy Junior was spanked?

The policeman received a call about a robbery in progress at a nearby bank. He drove up to the back door of the bank and got out of the car. After seeing the suspect trying to leave the scene of the crime, the policeman pulled out his gun. The suspect immediately stopped at the door, clutching his injured chest.

How likely is it that the policeman shot the suspect?

Steven's grandmother was arriving from Wisconsin for a visit, and he was not excited about it. She usually said something that totally embarrassed him. Steven saw his Grandmother walk off the airplane and come towards him. Steven's cheeks hurt for days afterwards.

How likely is it that Steven's grandmother pinched his cheeks?

After the rugby match, Justin's friends teased him for not knowing the rules. He gathered around his friends and joked about beating them next time. In order to look macho, Justin grabbed a beer from the cooler. His friends were soon covered in beer.

How likely is it that Justin sprayed his friends with beer?

Sheila often got angry with her employees when they missed deadlines or behaved incompetently. The employees were meeting today to discuss the contents of a new report. At the meeting, Sheila's face changed when she realized that a comma was missing. After their encounter with Sheila, the employees' ears were still ringing.

How likely is it that Sheila yelled at her employees?

The older model looked into the mirror to examine all of her wrinkles. She was fed up with not getting work and didn't know what else to do. She took out a bottle of pills and swallowed the entire container. Later, the model's family was taken to her funeral service.

How likely is it that the model died?

The hunter saw a deer in the dense bushes only 1 yard away from him. The hunter slowly approached the deer. Suddenly the deer turned its head and saw the hunter. Moments later, the deer was no longer standing there.

How likely is it that the deer ran?

Ben had a tough first year as a graduate student in the English department. He was heading to the library to return some books from a big paper he had just finished. He felt the weight of the heavy books in his arms as he was walking down the staircase. A second later, all of his books were scattered at the bottom of the staircase.

How likely is it that Ben dropped his books?

The politician presented his side in the presidential debate. He felt that his presentation was so good that he would definitely win the election. After the three-hour debate, the tired politician walked back to his table. Next, his tired feet felt better.

How likely is it that the politician sat down?

Ralph was late for school so he shoved a piece of bread in the old toaster. After a few minutes, he could see that the bread was not coming out of the toaster. He used his finger to dislodge the toast, forgetting that the toaster was still plugged in. Ralph laid on the ground not believing what had happened.

How likely is it that Ralph was shocked by the toaster?
Steven was taking a tour of the Grand Canyon by donkey. As it grew dark, Steven was ready to tie a pack to his donkey. He lifted his pack and approached the donkey from behind. Steven swore as he looked down at the bottom of his shoe. How likely is it that the donkey kicked Steven?

The policeman received a call about a robbery in progress at a nearby bank. He drove up to the back door of the bank and got out of the car. After seeing the suspect trying to leave the scene of the crime, the policeman pulled out his gun. The suspect immediately stopped at the door, turning toward the policeman. How likely is it that the policeman shot the suspect?

After the rugby match, Justin's friends teased him for not knowing the rules. He gathered around his friends and joked about beating them next time. In order to look macho, Justin grabbed a beer from the cooler. His friends were soon cheering him on. How likely is it that Justin sprayed his friends with beer?

The hunter saw a deer in the dense bushes only 1 yard away from him. The hunter slowly approached the deer. Suddenly the deer turned its head and saw the hunter. Moments later, the deer looked at the hunter. How likely is it that the deer ran?

Sheila often got angry with her employees when they missed deadlines or behaved incompetently. The employees were meeting today to discuss the contents of a new report. At the meeting, Sheila's face changed when she realized that a comma was missing. After their exchange with Sheila, the employees had a lot of work to redo. How likely is it that Sheila yelled at her employees?

Sammy Junior was always getting into trouble at home. Earlier that day, he made mud pies on his mother's new living room carpet. After seeing the muddy carpet, his mother charged into Sammy Junior's room. For the rest of the day, Sammy Junior's feelings hurt. How likely is it that Sammy Junior was spanked?

Ben had a tough first year as a graduate student in the English department. He was heading to the library to return some books from a big paper he had just finished. He felt the weight of the heavy books in his arms as he was walking down the staircase. A second later, he was cursing his English professor at the bottom of the staircase. How likely is it that Ben dropped his books?

Little Bonnie had not been allowed to go outside yesterday because the weather had been bad. She hoped to be able to play with her friends outside this morning. As the sun came up, Bonnie looked out her bedroom window to check the weather conditions. Bonnie saw that it looked nice for playing outside. How likely is it that it snowed outside?

Ralph was late for school so he shoved a piece of bread in the old toaster. After a few minutes, he could see that the bread was not coming out of the toaster. He used his finger to dislodge the toast, forgetting that the toaster was still plugged in. Ralph found himself hurt and in need of a Band-Aid. How likely is it that Ralph was shocked by the toaster?
Steven's grandmother was arriving from Wisconsin for a visit, and he was not excited about it. She usually said something that totally embarrassed him. Steven saw his Grandmother walk off the airplane and come towards him. Steven's pride hurt for days afterwards.

The politician presented his side in the presidential debate. He felt that his presentation was so good that he would definitely win the election. After the three-hour debate, the tired politician walked back to his table. Next, he felt more relaxed.

Patty met her friend for lunch at a picnic table outside. She grabbed a sandwich and an apple from her bag. As she bit into her apple, she noticed it had a big bruise on it. Her friend then saw the apple land in the wastebasket next to her.

Mildred was struggling to stay alert as she drove through the forest. She smoked a cigarette to combat the monotony of the long drive. After she finished her cigarette, she pitched it out of the car window. Her action disgusted the driver in the car behind her.

The fussy baby was placed in her highchair. A bib with a picture of Barney was placed around her neck. Her mother set down a plate of mashed carrots in front of the baby. After only 5 minutes, the wall was quite a mess.

Statistics was Steve's worst subject in school, but he studied hard for his exam today. Steve took out his calculator and he began his exam. The next day, the teacher handed back the students' exams. When Steve saw his graded exam, he knew that his parents would want to see it.

This was Mr. William's first time teaching high school history. As he lectured, he noticed the class seemed restless that day. As he bent over to pick up a piece of chalk, he noticed a large hole in the seat of his pants. Mr. Williams spent the next several minutes in the men's room down the hall.

Marie had a big final exam tomorrow and needed to study all night. She worked for an hour and then decided to relax. Marie walked to the couch and started watching television. Suddenly she realized how much work she had to do, and she went back to her studying.

Hugo made pizzas for a living, but really aspired to do something more creative. After work, Hugo went to the park near his apartment. He saw a beautiful sunset over the lake and took out his pad of white paper. After several minutes, the beauty of the moment was expressed in his work.

Jimmy was playing baseball with his neighborhood friends. He got excited when it was his turn at the plate. After hitting the ball, Jimmy watched as the ball hit a parked car. Jimmy looked at the car and kept playing baseball.
Walter was playing with his toy airplane next to the living room window. He liked to pretend that it was a high speed jet and could fly over 500 miles per hour. As Walter was playing with his toy airplane, it flew out of the third-floor window. Walter looked at his favorite toy airplane on the street below.

How likely is it that Walter’s toy airplane broke?

Mandy and Stacy were terribly late arriving at the London train station. To make matters worse, they saw a huge crowd of people standing in front of their train. Approaching the crowd, they knew that they absolutely could not miss the last train home. Minutes later, they were still on the outside of the crowd.

How likely is it that Mandy and Stacy pushed through the crowd?

Rachel was constantly watching her diet because she competed in beauty contests. At dinner with her family, she looked at all of the food in front of her. Apprehensively, Rachel took a large spoonful of her chicken soup. Luckily, her brother promptly removed her from the table.

How likely is it that Rachel choked?

It was Mother's Day, and Leah wanted to do something nice for her mother. Leah wrote a poem about how special her mother was to her. After reading her mother the beautiful poem, Leah looked over at her mother. She reached in her pocket and pulled out a camera.

How likely is it that Leah’s mother cried?

Don was building a tree house for his youngest son. He was now staining the wood on the tree house door. Don was almost done when his shirt got stuck in the door. Don saw that his shirt was completely ruined.

How likely is it that Don has a tear in his sleeve?

The basketball player raced down the court dribbling the ball. He stood nearly 7 feet and was an average player. He sailed through the air as he approached the rim. He listened to the stunned crowd as he collapsed on the basketball court.

How likely is it that the basketball player scored?

Jason took his small, wooden sailboat out on the lake. He was enjoying the air as the boat cruised through the water at a brisk speed. Jason was surprised when he felt the boat hit a rock. Later, the sailboat could be seen anchored by the marina.

How likely is it that the boat sank?

Fido was a cocker spaniel that loved to fetch sticks around the yard. Fido's owner let him outside to play in the yard. The dog became very excited as he saw the neighbor's German shepherd approach the fence. Next, the owner had to walk over to calm the dog.

How likely is it that Fido barked?

Tom and his colleague, Tanya, were out to lunch at Sammy Wong's Restaurant. The waiter promptly served Tanya her lunch. Her eyes grew wide when she saw a cockroach in her food. The entire restaurant was surprised by the fuss that she made.

How likely is it that Tanya screamed?

Greg decided to try a game of horseshoes in the park today. He had seen other people play horseshoes, but had never actually tried it himself. After arriving at the park, Greg picked up his horseshoe. Greg paused as he realized that someone was standing in front of the metal post.

How likely is it that Greg threw the horseshoe?
The older model looked into the mirror to examine all of her wrinkles. She was fed up with not getting work and didn't know what else to do. She took out a bottle of pills and swallowed the entire container. Later, the model's family was taken to her hospital room. How likely is it that the model died?

Seymour had lived in the same place for 10 years, and there was a lot of junk in his garage. It was full of sentimental photographs, books, and old clothes. Seymour entered the garage with a large box. After a few hours, Seymour thought about old times. How likely is it that Seymour cleaned the garage?

Henry was very absentminded. He rarely looked where he was going. Today he was in a hurry to get home and he didn't see the mud on the sidewalk. Henry felt silly when everyone saw the mud covering his shoes. How likely is it that Henry slipped?

Annie felt invincible when she was in her boxing class. Learning how to box really improved her strength and self-esteem. Today the class chose partners to practice their moves. The nose of Annie's partner was her focus point. How likely is it that Annie punched her partner?

Todd was enjoying a vacation with his friends in the French Riviera. He took off his shirt and shoes, and he went for a walk on the beach. At first, Todd didn't see all of the beautiful shells in the sand as he waded out into the water. Suddenly he called out to his friends holding a seashell. How likely is it that Todd cut his foot?

It had been raining for several days, and Stacy's car was covered in mud. Stacy's car was so dirty that her friends were embarrassed to be seen in it. One day, she went outside to examine the mud on her car. After a few hours in the sun, the car looked different. How likely is it that Stacy washed her car?

Julie reclined on the sofa to read the newspaper in her living room. It was Sunday, so she could spend extra time reading the paper. The room was slightly darker than she liked, so she stood up. She found that she could see the newspaper much better over by the window. How likely is it that Julie opened the blinds?

A Canadian tour group stepped off the bus and onto one of the most gorgeous beaches in Florida. Most of them had never been this far south, and were excited about exploring the beach. A few of the tourists laid down on their towels on the sunny beach. After only one hour, they were relaxed and could barely move. How likely is it that the tourists got sunburned?

Krista and Tom were standing together as they waited for the doctor to return. Both of them were nervous about the results of Krista's physical exam. Krista turned toward Tom as the doctor told them they would be parents soon. Krista saw that her reaction left a stunned look on Tom's face. How likely is it that Krista kissed Tom?

Brad was looking for a present for his wife's birthday. He didn't have a lot of money, but he wanted to find something special for her. Brad went to the jewelry department and saw a gold watch on the counter. As he left the store, he had a very disappointed look on his face. How likely is it that Brad stole the watch?
239  Timmy was celebrating his 5th birthday.  
    He unwrapped his last present and was thrilled to see that it was a pair of rollerblades.  
    Timmy decided to try out his rollerblades on the busy street outside their house.  
    Luckily, his mother was watching him skate down the street.

235  Brian was depressed because he knew that he made a huge mistake in his relationship.  
    Brian's girlfriend was angry because he took one of her friends out to dinner.  
    After several days of not returning his phone calls, his girlfriend finally called him back today.  
    After Brian hung up the phone, he looked down at her photo.

219  Alan was the friendliest guy in his office.  
    Tonight he was having a big party for his co-workers.  
    The party wasn't as lively as he wanted, so he put on an upbeat song and brought in the keg.  
    Alan's back was sore the next morning.

247  Grandma Rupert was preparing her coffee table for a game of bridge with her friends.  
    She took out her favorite antique tablecloth from the closet.  
    As she spread out the tablecloth, she saw that there were cake crumbs still on the table.  
    Grandma Rupert shook her head and looked at the table.

215  Suzie's parents were worried that she would get restless on the road to Los Angeles.  
    Fortunately, little Suzie was kept entertained with her coloring books in the back seat.  
    Once they arrived at their destination, Suzie left her crayons and coloring books on the back seat.  
    After returning to the car, Suzie's parents saw all of her things on the back seat.

243  The bride walked into the chapel and she couldn't believe that today was the big day.  
    She was extremely nervous about her wedding ceremony.  
    Near the end of the ceremony, the bride suddenly felt uneasy.  
    Luckily, the groom was there to make her feel better.

231  Claudia was hunting around in her great aunt's kitchen closet.  
    She found several jars with different contents that looked very pretty.  
    One of them looked especially fragile, so she removed the lid and discovered it contained pepper.  
    Next, Claudia quickly reached for a rag.

203  The two boys planned to meet on the playground after school.  
    One of the boys was upset because the other boy teased him in class about his big ears.  
    They looked at each other as they walked toward the playground.  
    The boys ended up with nothing resolved.

207  Penny was extremely worried that  
    Dave would meet another girl.  
    Dave tended to flirt with other women which made Penny very uncomfortable.  
    As they walked to the store, Penny saw Dave's eyes follow an attractive woman down the street.  
    Dave's face was soon bright red.
APPENDIX D

PREDICTIVE INFERENCE – STRONGLY CONSTRAINED TEXTS

307  Dave and Penny had a stormy relationship.
    They were in the middle of a heated discussion when Dave noticed a beautiful blonde pass by.
    Dave's eyes followed the attractive woman down the street.
    Penny turned to Dave and quickly raised her hand toward his cheek.
    How likely is it that Penny will slap Dave?

327  Brad was looking for a present for his wife's birthday.
    He wanted to find something special for her, but he couldn't afford to buy anything nice.
    In the accessories department, he saw an expensive scarf sitting on the counter.
    Next, he made his way to the counter and took out his bag.
    How likely is it that Brad will steal the scarf?

361  Mrs. Merrill had been a widow for 5 years, and desperately needed money.
    Her savings had been spent, and she was now barely getting by.
    She had a ruby necklace, but would have a hard time parting with it.
    She decided to go ask for help at a friend's house.
    How likely is it that Mrs. Merrill will sell her necklace?

315  Suzie's parents were worried that she would get restless during their big vacation on the road.
    Fortunately, little Suzie was kept entertained with her coloring books in the back seat.
    She colored pictures of every state they drove through on their way to Las Vegas.
    Once they arrived at their destination, Suzie threw her crayons in the hot, back window.
    How likely is it that Suzie’s crayons will melt?

353  Several people were outside that day.
    The air was colder than usual, but that didn't bother Bill.
    Bill got ready to join his friends.
    He was looking forward to getting some exercise out on the ice.
    How likely is it that Bill will skate?

319  Tonight, Alan was having a party for his friends.
    He was always the life of the party.
    Alan was trying to think of a fun way to entertain his guests tonight.
    When an upbeat disco song came on the radio, he dramatically went to the center of the room.
    How likely is it that Alan will dance?

311  Tom and Krista were standing together holding hands.
    Both of them were a little nervous, but mostly excited about today.
    Tom imagined the future as he looked at Krista.
    They were just pronounced as man and wife.
    How likely is it that Krista will kiss Tom?

357  The orchestra was warmed up and ready for the concert.
    The performers had practiced all summer long.
    A man in a tuxedo came on stage and looked at the orchestra.
    He began the concert by stepping up to the podium.
    How likely is it that this man will conduct the orchestra?

303  The rival gangs met outside the school yard.
    Both of the gangs had taken a vow to become less violent.
    The neighbors watched as the two gangs shouted back and forth to one another.
    Finally, one member went over to the rival gang and put up his fists.
    How likely is it that the rival gangs will fight?
Claudia was hunting around in the kitchen closet. She found several jars that were very pretty. One of them looked especially interesting, so she removed the top. As Claudia stuck her nose into the jar, she found that it was full of spicy pepper. How likely is it that Claudia will sneeze?

Lisa knew that her sister would love the chocolate cake that she was making for her birthday. After mixing the cake batter, she put it into the square-shaped baking pan. Then she turned on the oven, set the timer, and put the cake in the oven. Lisa didn't realize that she set the oven temperature too high. How likely is it that Lisa will burn the cake?

Bill was a science teacher at a local middle school. He thought the students were getting bored, so he decided to have them do an experiment. Bill asked one student to poke different objects to see what would happen. First, the student poked a balloon full of air with a pin. How likely is it that the balloon will pop?

Grandma Johnson was arriving from Florida for a visit. Her plane had just landed at the terminal. Amy saw Grandma Johnson come off the airplane. As Grandma Johnson arrived, Amy could see her Grandma's hands reaching out for her cheeks. How likely is it that Amy's grandma will pinch her cheeks?

Sheila often got angry with her employees when they missed deadlines or behaved incompetently. The employees were meeting today to discuss a report they had been working on for 3 months. At the meeting, Sheila's secretary passed out the report and Sheila began to look through it. Sheila's face tensed and she looked directly at her secretary when she realized that several pages were missing. How likely is it that Sheila will yell at her employees?

Amy's new car had a stick shift and she felt a bit insecure about driving it. When she got home from school, she parked the car and went inside the house. Then she realized that she had forgotten to put the emergency brake on. As she looked outside, she saw that her car had been parked on a steep hill. How likely is it that Amy's car will roll?

Ralph was late for school so he shoved a piece of bread in the old toaster. After a few minutes, he could see that the bread was not coming out of the toaster. Ralph didn't have anything else to eat and was determined to eat the toast. He used a metal knife to dislodge the toast from the toaster, forgetting that it was still plugged in. How likely is it that Ralph will feel a shock from the toaster?

The director and the cameraman were preparing for the next scene. They were new in Hollywood and had a lot to learn. The crew set up the cameras next to the building. The actress stood on the edge of the 14th floor ledge and suddenly fell to the ground. How likely is it that the actress will die?

After the rugby match, Justin's friends teased him for not knowing the rules. He gathered around his friends and joked about beating them next time. Next, Justin went to grab a drink from the cooler. With a big grin, he shook and twisted the lid off a bottle of soda, aiming at his friends. How likely is it that Justin will spray his friends with soda?

Tom was late for school. He had an early class and had trouble getting up in the morning. He went to the bus stop, hoping that the bus hadn't left yet. As he arrived at the bus stop, he saw his bus was just pulling away. How likely is it that Tom will run?
Steve and Susan were having a romantic picnic in the park. After they finished eating, Steve looked at his beloved Susan. He felt very close to her at this moment. So, he got down to his knees and pulled out a diamond ring. How likely is it that Steve will propose to Susan?

The graduate student was working on his dissertation in the library. He decided to bring his work home since it was getting late. After a long evening, he gathered all of his papers and books together. As he lifted his books, his arms suddenly became very weak. How likely is it that the graduate student will drop his books?

It was the middle of January in Buffalo, New York. Everyone Cindy knew at work had been terribly ill. She had been ill just last week and was still feeling the effects. In the middle of a meeting, she felt an annoying tickle rise in her throat. How likely is it that Cindy will cough?

The policeman saw the suspect trying to exit through the back door of Bank America. The policeman knew that he had to do something fast. The policeman pulled out his gun and shouted at the fleeing suspect. The policeman aimed his gun directly at the suspect, but he still wouldn't stop. How likely is it that the policeman will shoot the suspect?

Jennifer was getting ready for her big date, so she started a bath. She added her favorite aromatic oils to the water. Before she could turn off the water, she got a phone call from a childhood friend. After 45 minutes on the telephone, Jennifer realized her bath was still on. How likely is it that Jennifer’s bath will flood?

Hugo was stuck making pizzas for a living but really aspired to do something more creative. After work, Hugo went to the crowded city park. Once there, he looked around for pleasing scenery. He saw the beautiful sunset over the lake and took out his easel and brush. How likely is it that Hugo will paint?

Jeff needed to pass this exam in order to get an A in the course. His instructor passed out the exam to the class. Jeff's hands were shaking as he read the first question. Jeff realized that he had a clear view of another student's answers. How likely is it that Jeff will cheat on the exam?

It was the end of a long week at work for Margie. So, she finished up her work for the day and told her boss that she was going home. She knew exactly what she was going to do when she got there. When Margie arrived home, she got her pajamas on and turned off the lights. How likely is it that Margie will sleep?

Jennifer was sitting in the very last row of her high school biology class. She thought the instructor was a real nerd. Jennifer watched as the instructor lectured to the class. In the middle of the lecture, her instructor made a funny joke. How likely is it that the class will laugh?

As Jimmy was coming home one day, he ran into some of the kids from the neighborhood. They asked him if he wanted to hang out with them. They taught him a fun game that involved tossing things at a target to get points. He missed, though, and knocked the door of a new car with a baseball. How likely is it that Jimmy will dent the car?
Walter was using his toy dump truck next to the living room window. He liked to fill the truck with sand and then dump the sand out the window, down onto the street below. As Walter was dumping sand, his truck fell out of the third-floor window. He watched as the fragile, wooden truck fell toward the cement driveway.

How likely is it that Walter’s dump truck will break?

A group of entertainers were in their tent preparing to perform for the annual Acme Company picnic. Bobo the clown thought he looked silly in his clongetup. Not only that, but his gigantic clown shoes didn't look quite right that day. It wasn't until he attempted to leave the tent that he realized that someone had tied his shoestrings together.

How likely is it that Bobo will trip?

The boys' high school baseball team was having tryouts for the spring season. The coach decided to test the boys' baseball skills before he did anything else. The first batter to step up to the plate was a new boy on the team. As the pitcher released the ball, the boy raised his bat and the ball went directly to him.

How likely is it that the new boy on the team will hit the ball?

Rachel was constantly watching her diet because she competed in beauty contests. At dinner, she looked at all of the food on her plate. She hadn't eaten for nearly an entire day and was hungry. Rachel had a hard time eating her soup because she accidentally swallowed a chicken bone.

How likely is it that Rachel will choke?

At work, Albert received an important telephone call. He drove directly to his mother's house. He greeted his mother and asked if they could talk. As he told his mother that he had cancer, she pulled out her handkerchief.

How likely is it that Albert’s mother will cry?

Patty sat down at the lunchroom table and took out the shiny, red apple. She bit into the apple. Then she stared at it. It had half a worm in it.

How likely is it that Patty will spit out the apple?

Mildred was driving on the highway late at night struggling to stay alert. She smoked a cigarette to combat the monotony of the long drive. After she finished her cigarette, Mildred pitched it out of the car window. The cigarette landed on a pile of dry leaves on the side of the road.

How likely is it that Mildred will start a fire?

Henry was very absentminded. He rarely watched where he was going. Today he was in a hurry to get home. As he was heading home, he stepped on some ice.

How likely is it that Henry will slip?

The airplane was in flight to Europe. The passengers knew that they should soon be approaching their destination. They looked out the window and saw a mountain range a few feet away from them. The passengers knew they were too close and called out in terror.

How likely is it that the plane will crash?

Todd and his dog were enjoying a nice, long stroll on Daytona beach. He couldn't imagine a better way to spend his summer vacation. Todd decided to take his shoes off and wade in the water. With his next step, he didn't notice a piece of broken glass under his foot.

How likely is it that Todd will cut his foot?
Sandy's home was a century old and needed many repairs. The roof, in particular, was in poor condition. She noticed one evening that there were many holes in the roof that needed to be fixed. Sandy became worried when she learned there would be heavy rainfall. How likely is it that Sandy’s roof will leak?

Julie sat down to read the newspaper in her living room. It was Sunday, so she could spend some extra time reading the paper. She picked up the paper and searched for the entertainment section. The room was darker than she liked, so Julie went over to the blinds. How likely is it that Julie will open the blinds?

Seymour had lived in the same place for 10 years. During that time, a lot of junk had accumulated in his garage. It was full of sentimental photographs, books, and old clothes. Seymour entered the garage and grabbed a mop and a broom. How likely is it that Seymour will clean the garage?

Troy and his colleague, Tanya, were out to lunch at Sammy Wong’s Restaurant. Tanya ordered the special of the day. The waiter promptly served her meal. Her eyes grew wide when she looked at her plate and saw a giant cockroach. How likely is it that Tanya will scream?

The junior basketball star raced down the court. He was in rare form that night. His teammates had a hard time keeping up with him. He stopped in the center of the court and looked at the basket. How likely is it that the junior basketball star will throw the ball?

The passengers had paid a great deal of money to take an historic ship across the Arctic Ocean. The ship cruised through the ice-cold water at a brisk speed. The ship's captain became distracted as the ship fell off course. All of a sudden, the captain heard a crunching sound as the ship struck a large iceberg. How likely is it that the boat will sink?

Don was building a tree house for his youngest son. He had already finished the main part of the tree house. He was now nailing the final pieces of wood for the entry way. Don was almost done when his T-shirt got caught on a nail. How likely is it that Don will tear his T-shirt?

Kyle needed a vacation from the hustle and bustle of work, so he left his cell phone at home and drove North. While driving through the country, he ran out of gas. Kyle got out of his car and checked the contents of his trunk. He knew the nearest gas station was a mile away and the spare gas can in the trunk was missing. How likely is it that Kyle will walk to the gas station?

This was the final quarter of the Tigers' last football game of the season against the Bulldogs. There were only thirty seconds left on the clock. The athletes' hearts raced with excitement as the clock started up. The Tigers were close to their opponents' end zone, on the 5-yard line, and they had the ball. How likely is it that the Tigers’ will score?
APPENDIX E
PREDICTIVE INFERENCE – WEAKLY CONSTRAINED TEXTS

402 Todd and his dog were enjoying a nice, long stroll on Daytona beach. He couldn't imagine a better way to spend his summer vacation. Todd decided to take his shoes off and wade in the water. With his next step, he didn't notice a beautiful seashell nearby. How likely is it that Todd will cut his foot?

408 The director and the cameraman were preparing for the next scene. They were new in Hollywood and had a lot to learn. The crew set up the cameras next to the building. The actress stood on the edge of the 2nd floor ledge and suddenly fell to the ground. How likely is it that the actress will die?

456 Kyle needed a vacation from the hustle and bustle of work, so he left his cell phone at home and drove North. While driving through the country, he ran out of gas. Kyle got out of his car and checked the contents of his trunk. He knew the nearest gas station was a mile away and the spare gas can in the trunk was half full. How likely is it that Kyle will walk to the gas station?

406 The passengers had paid a great deal of money to take an historic ship across the Arctic Ocean. The ship cruised through the ice-cold water at a brisk speed. The ship's captain became distracted as the ship fell off course. All of a sudden, the captain heard a crunching sound as the ship bumped into a small piece of ice. How likely is it that the boat will sink?

426 Henry was very absentminded. He rarely watched where he was going. Today he was in a hurry to get home. As he was heading home, he stepped in some mud. How likely is it that Henry will slip?

410 Julie sat down to read the newspaper in her living room. It was Sunday, so she could spend some extra time reading the paper. She picked up the paper and searched for the entertainment section. The room was darker than she liked, so Julie went over to the balcony. How likely is it that Julie will open the blinds?

460 Sandy's home was a century old and needed many repairs. The roof, in particular, was in poor condition. She noticed one evening that there were many holes in the roof that needed to be fixed. Sandy became worried when she learned that there would be light rainfall. How likely is it that Sandy’s roof will leak?

414 Don was building a tree house for his youngest son. He had already finished the main part of the tree house. He was now nailing the final pieces of wood for the entry way. Don was almost done when his shoe got caught on a nail. How likely is it that Don will tear his T-shirt?

422 The junior basketball star raced down the court. He was in rare form that night. His teammates had a hard time keeping up with him. He stopped in the center of the court and looked at the referee. How likely is it that the junior basketball star will throw the ball?
Seymour had lived in the same place for 10 years. During that time, a lot of junk had accumulated in his garage. It was full of sentimental photographs, books, and old clothes. Seymour entered the garage and grabbed a box full of photos. How likely is it that Seymour will clean the garage? ______________ 

The airplane was in flight to Europe. The passengers knew that they should soon be approaching their destination. They looked out the window and saw a mountain range a few feet away from them. The passengers knew they were close and let out a big sigh. How likely is it that the plane will crash? ______________ 

This was the final quarter of the Tigers' last football game of the season against the Bulldogs. There were only thirty seconds left on the clock. The athletes' hearts raced with excitement as the clock started up. The Tigers were far from their opponents' end zone, on the 50-yard line, and they had the ball. How likely is it that the Tigers' will score? ______________ 

Troy and his colleague, Tanya, were out to lunch at Sammy Wong's Restaurant. Tanya ordered the special of the day. The waiter promptly served her meal. Her eyes grew wide when she looked at her plate and saw some uncooked food. How likely is it that Tanya will scream? ______________ 

Lisa knew that her sister would love the chocolate cake that she was making for her birthday. After mixing the cake batter, she put it into the square-shaped baking pan. Then she turned on the oven, set the timer, and put the cake in the oven. Lisa didn't realize that she set the timer off by a few minutes. How likely is it that Lisa will burn the cake? ______________ 

Tom and Krista were standing together holding hands. Both of them were a little nervous, but mostly excited about today. Tom imagined the future as he looked at Krista. They were just announced as college graduates. How likely is it that Krista will kiss Tom? ______________ 

Bill was a science teacher at a local middle school. He thought the students were getting bored, so he decided to have them do an experiment. Bill asked one student to poke different objects to see what would happen. First, the student poked a bag full of water with a pin. How likely is it that the bag will pop? ______________ 

Claudia was hunting around in the kitchen closet. She found several jars that were very pretty. One of them looked especially interesting, so she removed the top. As Claudia stuck her nose under the jar, she found that it was full of sweet cinnamon. How likely is it that Claudia will sneeze? ______________ 

The orchestra was warmed up and ready for the concert. The performers had practiced all summer long. A man in a tuxedo came on stage and looked at the orchestra. He began the concert by stepping up to the microphone. How likely is it that this man will conduct the orchestra? ______________ 

Several people were outside that day. The air was colder than usual, but that didn't bother Bill. Bill got ready to join his friends. He was looking forward to getting some exercise outside today. How likely is it that Bill will skate? ______________
Tonight, Alan was having a party for his friends. He was always the life of the party. Alan was trying to think of a fun way to entertain his guests tonight. When a cheesy love song came on the radio, he dramatically went to the center of the room.

How likely is it that Alan will dance?

Dave and Penny had a stormy relationship. They were in the middle of a heated discussion when Dave noticed a beautiful blonde pass by. Dave's eyes followed the attractive woman down the street. Penny turned to Dave and quickly raised her hand toward his arm.

How likely is it that Penny will slap Dave?

Suzie's parents were worried that she would get restless during their big vacation on the road. Fortunately, little Suzie was kept entertained with her coloring books in the back seat. She colored pictures of every state they drove through on their way to Las Vegas. Once they arrived at their destination, Suzie threw her crayons in the back seat.

How likely is it that Suzie's crayons will melt?

Brad was looking for a present for his wife's birthday. He wanted to find something special for her, but he couldn't afford to buy anything nice. In the accessories department, he saw an expensive scarf sitting on the counter. Next, he made his way to the counter and examined it more closely.

How likely is it that Brad will steal the scarf?

The rival gangs met outside the school yard. Both of the gangs had taken a vow to become less violent. The neighbors watched as the two gangs shouted back and forth to one another. Finally, one member went over to the rival gang and put out his hand.

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How likely is it that Mrs. Merrill will sell her necklace?

Tom was late for school. He had an early class and had trouble getting up in the morning. He went to the bus stop, hoping that the bus hadn't left yet. As he arrived at the bus stop, he saw his bus was already 5 blocks away.

How likely is it that Tom will run?

After the rugby match, Justin's friends teased him for not knowing the rules. He gathered around his friends and joked about beating them next time. Next, Justin went to grab a drink from the cooler. With a grin, he twisted the lid off a bottle of soda, looking for his friends.

How likely is it that Justin will spray his friends with soda?

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How likely is it that the graduate student will drop his books?

Sheila often got angry with her employees when they missed deadlines or behaved incompetently. The employees were meeting today to discuss a report they had been working on for 3 months. At the meeting, Sheila's secretary passed out the report and Sheila began to look through it. Sheila's face changed and she looked at her secretary when she realized that a comma was missing.

How likely is it that Sheila will yell at her employees?
The policeman saw the suspect trying to exit through the back door of Bank America. The policeman knew that he had to do something fast. The policeman pulled out his gun and shouted at the fleeing suspect. The policeman aimed his gun directly at the suspect and he immediately stopped. How likely is it that the policeman will shoot the suspect?

Grandma Johnson was arriving from Florida for a visit. Her plane had just landed at the terminal. Amy saw Grandma Johnson come off the airplane. As Grandma Johnson arrived, Amy could see her Grandma's hands reaching out for her. How likely is it that Amy’s grandma will pinch her cheeks?

Jennifer was getting ready for her big date, so she started a bath. She added her favorite aromatic oils to the water. Before she could turn off the water, she got a phone call from a childhood friend. After 4 minutes on the telephone, Jennifer remembered her bath was still on. How likely is it that Jennifer’s bath will flood?

It was the middle of January in Buffalo, New York. Everyone Cindy knew at work had been terribly ill. She had been ill just last week and was still feeling the effects. In the middle of a meeting, she felt her throat become very sore. How likely is it that Cindy will cough?

Ralph was late for school so he shoved a piece of bread in the old toaster. After a few minutes, he could see that the bread was not coming out of the toaster. Ralph didn't have anything else to eat and was determined to eat the toast. He used his finger to dislodge the toast from the toaster, forgetting that it was still hot. How likely is it that Ralph will feel a shock from the toaster?

Amy's new car had a stick shift and she felt a bit insecure about driving it. When she got home from school, she parked the car and went inside the house. Then she realized that she had forgotten to put the emergency brake on. As she looked outside, she saw that her car was parked in the driveway. How likely is it that Amy’s car will roll?

The director and the cameraman were preparing for the next scene. They were new in Hollywood and had a lot to learn. The crew set up the cameras next to the building. The actress stood on the edge of the 2nd floor ledge and suddenly fell to the ground. How likely is it that the actress will die?

Steve and Susan were having a romantic picnic in the park. After they finished eating, Steve looked at his beloved Susan. He felt very close to her at this moment. So, he bent over and picked a rose for her. How likely is it that Steve will propose to Susan?

As Jimmy was coming home one day, he ran into some of the kids from the neighborhood. They asked him if he wanted to hang out with them. They taught him a fun game that involved tossing things at a target to get points. He missed, though, and knocked the door of a new car with a snowball. How likely is it that Jimmy will dent the car?

Mildred was driving on the highway late at night struggling to stay alert. She smoked a cigarette to combat the monotony of the long drive. After she finished her cigarette, Mildred pitched it out of the car window. The cigarette landed on a pile of damp leaves on the side of the road. How likely is it that Mildred will start a fire?
The boys' high school baseball team was having tryouts for the spring season. The coach decided to test the boys’ baseball skills before he did anything else. The first batter to step up to the plate was a new boy on the team. As the pitcher released the ball, the boy raised his bat and lost his grip. How likely is it that the new boy on the team will hit the ball?

Jennifer was sitting in the very last row of her high school biology class. She thought the instructor was a real nerd. Jennifer watched as the instructor lectured to the class. In the middle of the lecture, her instructor lost his train of thought. How likely is it that the class will laugh?

Jeff needed to pass this exam in order to get an A in the course. His instructor passed out the exam to the class. Jeff's hands were shaking as he read the first question. Jeff realized that he had not prepared well enough for the exam. How likely is it that Jeff will cheat on the exam?

Patty sat down at the lunchroom table and took out the shiny, red apple. She bit into the apple. Then she stared at it. It had no flavor to it. How likely is it that Patty will spit out the apple?

At work, Albert received an important telephone call. He drove directly to his mother's house. He greeted his mother and asked if they could talk. As he told his mother that he didn't get accepted into graduate school, she moved closer to him. How likely is it that Albert's mother will cry?

It was the end of a long week at work for Margie. So, she finished up her work for the day and told her boss that she was going home. She knew exactly what she was going to do when she got there. When Margie arrived home, she got more comfortable and sat down on the couch. How likely is it that Margie will sleep?

Rachel was constantly watching her diet because she competed in beauty contests. At dinner, she looked at all of the food on her plate. She hadn't eaten for nearly an entire day and was hungry. Rachel had a hard time eating her soup because she felt that she was too fat. How likely is it that Rachel will choke?

A group of entertainers were in their tent preparing to perform for the annual Acme Company picnic. Bobo the clown thought he looked silly in his clown getup. Not only that, but his gigantic clown shoes didn't look quite right that day. It wasn't until he attempted to leave the tent that he realized that someone had played a trick on him. How likely is it that Bobo will trip?

Hugo was stuck making pizzas for a living but really aspired to do something more creative. After work, Hugo went to the crowded city park. Once there, he looked around for pleasing scenery. He saw the beautiful sunset over the lake and took out his pad of paper. How likely is it that Hugo will paint?

Walter was using his toy dump truck next to the living room window. He liked to fill the truck with sand and then dump the sand out the window, down onto the street below. As Walter was dumping sand, his truck fell out of the third-floor window. He watched as the wooden truck fell toward the bushes. How likely is it that Walter's dump truck will break?
APPENDIX F

NEUTRAL TEXTS

501 The teenage boys were cruising the streets of their town.  
   One of the boys had a nice new sports car.  
   The girls in town were impressed by the fast car.  
   They often rode around town in the shiny red Mustang.  

502 The three women had been friends since childhood.  
   No matter where they were, they stayed in touch.  
   Currently, they were together to celebrate New Year's Eve.  
   They spent the evening discussing old memories and talking about the future.  

503 The pig was quite pleased with himself.  
   He had managed to escape from the barn without his owner seeing him.  
   He also found a big pile of dirt to roll around in next to the barn.  
   Now covered in dirt, the pig decided to lay down.  

504 Other kids often tormented the awkward girl in school.  
   The girl had tried to make friends, but at times it seemed hopeless.  
   She was terribly shy and her mother dressed her in old clothes.  
   To make matters worse, the little girl often smelled bad.  

505 Although he was only 15 years old, Harold was special.  
   He had an amazing ability.  
   Harold could play golf like a player twice his age.  
   His parents hoped he would grow up to be like Tiger Woods.  

506 Janet's coffee table had recently become wobbly.  
   She planned to pick up some glue to fix the loose leg.  
   Somehow she never could find the time to stop at the store after work.  
   She always wanted to get home and watch television after work.  

507 The doctor shook her head.  
   Her last client was in a terrible physical condition.  
   The last time he did any sort of physical exercise was over 20 years ago.  
   As a result, he was terribly overweight and had high blood pressure.  

508 Oktoberfest was a smelly confusion of many different people and beer.  
   Nellie heard the German band from the back of the crowd.  
   She liked German music because her parents always played it when she was young.  
   Nellie looked at the crowd and thought of how her parents would have enjoyed the music too.  

509 The atmosphere on the remote island was getting tense.  
   The survivors had a hard time getting along with each other.  
   They didn't enjoy sharing the island with the rats.  
   After only two days, a few of the survivors were ready to leave.
A woman stumbled out onto the deck of her newly purchased yacht. She was tall and her satin dress was elaborately embroidered. She had someone pour her another cold drink. She enjoyed drinking champagne on the deck of her yacht at sunset.

The author had worked day and night on her new book. She seldom rested, and if she did it was only for an hour or two. She had worked this way for years. Her family was afraid she would soon develop serious health problems.

Dan worked at the package store on the late shift. At about 2:00 a.m., a scraggly-looking man came in. He roamed around the store for about 20 minutes. Finally, he bought some gum and left the store.

At sunset the escaped convict ducked into an abandoned old house. He knew that he shouldn't stay there too long tonight. He had served the first 3 years of a life sentence in a maximum security prison. He could not stay mattress, and used it as a pillow.

On special occasions, the Rochester family had big outdoor parties. They lived on a large beautiful estate only 1 mile away from the ocean. Parties typically started off with a small gathering on the beach. Tonight, they would end the night with a clam bake.

The person directly next to Toni handed her an answer sheet. Soon this horrible bio-chemistry class would be over. Toni was nervously reading her notes one last time. She repeated the chemical sequences aloud to herself.

The high school band had practiced for months. Their big performance was later that night. Each year, the band had a big spring concert for the parents. Many said it was usually their best concert of the year.

The radio station was having its annual fund raiser. Maria had decided to become a D.J. She loved all types of music. She didn't like to speak in front of crowds, but over the radio she was fine.

The young couple had very little money. They had just been married and their budget was tight. The first thing they wanted to buy was a large stereo. They asked for a loan from her parents and purchased one.

The dog pulled at her leash and whined. She blinked her sad brown eyes up at her owner. Next, the dog laid on the ground. Nellie's owner would still not let her off her leash.
It was the first week of classes. Jose had become infatuated with Gloria the moment he saw her. There were in the same dormitory and bumped into each other often. He felt he acted like a jerk every time she was around because he became nervous.

Lynn and Tracy had been very close friends for many years. They were both sad when Tracy had to move away. They did manage to visit each other whenever they had free time. Their visits were typically started off with talk about the old days.

The petting farm was Ben's favorite part of the zoo. He liked to go and pet the horses. Ben always remembered to bring his camera so that he could take a picture. He hoped that he could one day have a pet horse of his own.

Mrs. Mac Pherson was standing in her front doorway. She was calling for her cat, Muffy. The woman wore a neon green moo-moo and she had a purple flowered scarf in her hair. Muffy, a big ginger tomcat, crawled out from under a bush.

Rose called to her brother when she saw something by the river. He waved to his sister, who was standing at the river's edge. While standing completely still, they saw a crocodile. It slid off a boulder into the water.

Leslie had found a great apartment in Greenwich Village. It was surrounded by little cafes and funky shops. A shop next to her apartment had the most fashionable clothes in town. A few blocks away was an old movie theatre that showed foreign films.

Eric and Zelda decided that they wanted their son to appreciate the mysteries of life. They decided to give him a pet as a birthday present. They put up a sign in town asking if anyone had a baby animal to give away. They got a call from a man who said that his dog was going to have puppies any day.

Max was a cabbie in Chicago. His first fare of the day was an expensively dressed man. He asked Max to take him directly to the airport. At the airport, the man gave Max a huge tip without saying a word.

The school yard was empty. All the students were already on their summer vacation. The groundskeeper had also taken his vacation. It was strange to see the school yard with no students around.

The rain came down gently to the earth. It was late summer and the ground needed some moisture. Eventually, small puddles grew into huge ponds of water. After several days of rain, the ground became muddy.
The Dutchess entered the ball. Her reputation preceded her wherever she went. She was currently dating a handsome man half her age. Whispers surrounded her as she moved across the room.

Karen and Ruth had been working in the emergency room. They had gotten their nursing degree two years ago. This morning they watched the police bring in three young children. They had gotten hurt on the jungle gym at their school.

Halloween was a dark time for the citizens of Storyville. Two young boys had disappeared the day before. The last time they were seen was in a store with their mother. The boys had been trying on Halloween costumes when they vanished.

Marie had wanted to be a doctor for as long as she could remember. When she was a child, she was in awe of her father's medical things. Once he let her try his stethoscope on. She was fascinated by the sound of her own beating heart.

The restaurant owner was nervous. He had just purchased the restaurant. To attract large crowds, he had advertised free hors d'oeuvres. He was pleased to see a huge line forming outside.

The defense attorney loudly called out an objection. The prosecutor looked uneasily at the judge. He waited for the judge's ruling. The judge overruled the objection tersely, and told the prosecutor to hurry up with his testimony.

Simon wasn't sure he was enjoying his long vacation in South America. He was in the dark, steamy jungle. It was filled with many dangerous snakes and insects. As he maneuvered through the jungle, he moved a vine that hung over the path.

The state volleyball team was hot. They had won all of their matches that year. And, so far, there had been no injuries. The volleyball team was destined for greatness.

Marsha looked outside her window and she saw a beautiful sunrise. She quickly got dressed in sweats and went outside. Marsha lived near the beach and loved the mornings. She liked the thought that the town was quiet.

Rudy and Susan had just become proud parents of a baby boy. They decided to join a parenting group at the YMCA. Neither of them knew much about raising a child. They were both only 19 and hadn't planned on having a child so young.
The chef hurried into the kitchen. The food critic had just arrived. The chef made sure that the critic was served their very best bottle of Merlot. Next, the critic examined every inch of the restaurant before leaving.

The first thing Rebecca and Marla did the day after graduation was look for summer jobs. They wanted to find a fun job that had fairly flexible hours. They both read all of the want ads and could not find anything. So, they decided to meet some friends for drinks at their favorite bar.

The therapist was extremely bored with her job. She was tired of hearing everyone else's problems. She had seen 10 clients that day, back to back. She started thinking about an early retirement.

Pam and Martin decided to search the attic for their missing lamp. They had been putting off looking for it all spring. They wanted to get to it before summer, when it was incredibly hot in the attic. They thought that they may also find other items they needed that were stashed away.

It was Chuck's daughter's first day of elementary school. He came home from work early to hear all about her day. She was the youngest of his three children. She had been very excited to finally be going to school just like her two older brothers.

Summer was definitely in the air. Parents were out strolling outside with their new babies. The park was filled with kids playing on the swings. Soon, it would be hot enough to swim in the lake nearby.

The small town was still reeling from the news. A maverick mayor had just been elected. Everyone wondered exactly who had voted for him. The city was anxious to see how the new mayor would shake things up.

Ellen and Fred had been working in New York City for six months. Ellen's parents were coming to stay with them this weekend. She was trying to be think about what fun tourist spots they would visit. Ellen and Fred decided to take them to the Metropolitan Museum of Art first.

Jenny put her fingers through her dirty hair. The coffee was brewing and she gave a big yawn. Next, she headed out to get the morning paper. Wrapping a bathrobe tightly around her, she went out the door.
APPENDIX G

FILLER TEXTS

601 The basket, filled with onions and potatoes, was getting heavy.
   Helena switched the basket over to her other arm.
   She thought how silly it was to have bought the heavy things first.
   Now she had to carry this stuff through the rest of the Farmer's Market.

602 The Buckington Car Lodge was an English castle converted into a motel.
   Pamela had arrived in England only that morning and was very excited.
   Despite jet lag, she was having trouble getting comfortable.
   She wandered around the Great Room, which served as the lobby.

603 Victoria stood on the terrace overlooking the garden and shook her head.
   Somehow, the garden no longer suited her tastes.
   Now she wanted flowers, arranged in a variety of colors.
   She picked up a shovel to dig up all of the carrots.

604 Andrew, the new chauffeur, crossed the veranda.
   He removed his cap in greeting, and his hair gleamed in the sunlight.
   His uniform fit tightly across his shoulders.
   The afternoon sun beat down so warmly that Andrew took off his shirt.

605 Maurice heard on the radio that flying saucers were taking over the Earth.
   Making sure they had enough food, Maurice sealed the lab from the outside world.
   As the days passed, the radio announced that all Earthlings were being enslaved.
   Maurice knew he had to do something.

606 Within a few hours the waters would be high enough to float the ark.
   Seth was afraid for the animals.
   From the edge of the ark, he could see the damage the rains had already done.
   His brother started to direct pairs of animals off the ark.

607 Ron and Alice were setting up a cashier stand for their garage sale.
   They were moving to Tennessee next week.
   They needed to get rid of many things before they left.
   It didn't pay to take some of the old furniture with them to their new home.

608 Ethel and Jacques were baking cookies to send their daughter at college.
   Ethel selected four dozen of the best ones.
   Not finding a container on the shelf, Jacques surveyed the rest of the kitchen.
   He decided to use an old shoebox.

609 Willie was a talented songwriter.
   He wrote beautiful but strange lyrics.
   Willie had a hard time making a living, however.
   His songs were too abstract for most audiences.
Katmandu was sad. He was used to being the only family pet. Now, his owners had brought home another pet. Katmandu was jealous of Molly, the golden retriever.

Louis was always on the go. He was a social worker. His main duty was to help refugee families. Louis helped immigrant families get settled in their new country.

Camp Snoopy was alive with activity. There was a huge celebration. It was Snoopy's 60th birthday. Children came from all over Minnesota to wish Snoopy a happy birthday.

Lee was an Internet junkie. When he wasn't at work, he was surfing the Internet. He did all of his shopping and communicating on the Internet. Lee was beginning to lose touch with reality.

Marlene was a terrible typist. She was a professor, so it was important for her to have this skill. She bought a typing tutorial program for her computer. Marlene practiced typing for 3 hours each day.

Morton wanted to provide security for his children. He invested in stocks and bonds. He watched his investments carefully. Morton wanted to leave his children with a large sum of money.

Maui loved to surf. His real name wasn't Maui, but that's the name he went by. He got the nickname by spending 4 months of the year in Hawaii. Maui spent those months riding the waves.

Jake was a unique person. At age 65, he decided to grow a ponytail and become more creative. Jake lived on a big ranch in western Nebraska. There, he made tiny gold sculptures of birds.

Lindy grew up on a farm in the Midwest. He learned to occupy himself by carving wood. He made whistles, flutes, and interesting figurines. One year, Lindy won a ribbon in the county fair for one of his creations.

Shannon loved Italian designer dresses, purses, and shoes. She knew they were too expensive for her budget, but she had to have the latest styles. She traveled to Italy last fall just to go shopping. Shannon was thrilled with all of the new clothes she found there.
The blue jay was rather angry at the squirrel. The squirrel had taken all of the bird food in the feeder. The blue jay told him that it was meant for him. The squirrel replied by telling him that the early bird catches the worm.

Donald was normally a sensitive male. The only exception was when there was a football game on TV. His eyes became fixated and he became aggressive. No one could speak to Donald during a game.

Samantha had finally finished her Ph.D. Now, she had was anxious to find a job. She wanted to be a history professor. After hard work, Samantha ended up getting a great job at the University of New Mexico.

Karate was always an interest of William's. He was somewhat shy and karate gave him confidence. Karate helped him in many other ways, too. Last summer, he earned his black belt.

The latest fitness craze at the gym was cycling. Selma and Stacy couldn't get enough of it. They had become somewhat addicted. Their legs bulged from all of their intense exercise.

It was Christmas time and all of the children were excited. Santa Claus was rumored to be at the mall. Children begged their parents to see him. Many children wanted their pictures taken with Santa.

The ancient Indian burial ground was sacred to many. It was a beautiful spot on the top of a bluff. The people of the village made offerings to the spirits there. Many thought it was wrong to go there without an offering.

The hikers scurried down the side of the huge mountain. Local construction had caused an avalanche. Rocks and debris tumbled everywhere. Most of the hikers got to the bottom of the mountain safely.

The small animals in the lush forest were restless. There had been a terrible storm the night before. Several nests and dens had been disrupted. Many animals had been injured.

The two women greeted each other in the park. They were glad to catch up with each other. One woman had gotten married only 2 months ago. She told her friend all about her honeymoon in the French Riviera.
The football game was about to start. Mike put out the drinks and chips. He hoped the Dallas Cowboys would win. Mike was a big fan of the team.

Christie was in line at the grocery store. She noticed the rack of magazines next to her. On the cover of one was her favorite actor, Brad Pitt. She read the article about him as she waited in line.

Julie was 5 months pregnant. She just found out the baby was a girl. Her husband thought of many beautiful female names. They both knew they had to choose a name soon.

The flea market was held every first Sunday of the month. Kim liked to shop there as often as she could. She decorated her house with items from there. Kim even managed to find unique gifts for her friends there.

The farmer had a tough season. It hadn't rained for several weeks. He feared that he would not have a good harvest. He hoped that he would not have to give up his farm.

The mailman enjoyed his work. He had been on the same route for almost 7 years. He loved meeting the people every day on his route. One day he delivered a gigantic package to Mr. Fletcher.

The woman waited outside her apartment for a taxi. She was going to meet her sister while her car was being repaired. Her sister was very impatient, and didn't like to wait for people. She hoped her taxi would arrive soon.

Samantha was driving to the mall. She heard a strange sound. She pulled over to the side of the road as soon as she could. Samantha stepped out of the car, and saw that she had a flat tire.

The man entered the busy highway to head home. It was 5:00 p.m. and he was in the middle of rush hour traffic. The highway was bumper to bumper. The man was having a very hard time being patient.

The old man examined the people walking by him on a busy corner downtown. He no longer had any place to live and he didn't have any money. He never imagined that he would ever be homeless. The man huddled to keep warm.
The rafting excursion was very exciting for Todd. He got into the raft and put his life vest on. The guide gave him detailed paddling instructions. He felt a big rush as he headed down the rocky river.

The boy just had heart surgery. He was scared, but very relieved when it was over. His family anxiously entered into his hospital room. He was happy to see that they brought him his favorite toy from home.

The children's eyes became huge as they entered the candy store. Their parents didn't usually let them have any sweets. This was a special occasion. It was the youngest child's fourth birthday, so they were allowed a treat.

Jim entered his schedule into his electronic planner. He was skeptical about using a computer instead of his old calendar. Jim entered all of his important meetings into the planner. He tapped one button and then suddenly he saw the screen go blank.

The flight was crowded and hot, and the flight attendants were rude. The flight was going from Chicago to Paris. One passenger stood up and demanded a glass of water. Next, another angry passenger began to stand up in protest also.

The mechanic fixed the starter on Ralph's car. It took him several hours to finish the job. He was experienced, but the shop was very busy that day. He had to finish working on 5 other cars, before he could finally fix Ralph's car.

Jennifer and her mother went shopping for a pair of shoes. The shoes had to match Jennifer's prom dress perfectly. Her dress was a light shade of blue. They hoped they would be able to find shoes in time for the prom.

The designer had a new dress ready for the Spring line. It was a white, silk strapless dress that went to the knees. She hoped that her boss would like the new design. A moment later, she watched as her boss entered the room.

The stock broker bought several shares of ENET. ENET was a new internet browser company that was very popular. He felt that this company would be very profitable. He invested a lot of money into it.
APPENDIX H
VIDEO RESPONSE SURVEY

Happy Video Response

Please provide a brief one word to one sentence response:

After watching the video clips what did you think about the video? (I.e. Did you think the video was funny? Stupid?)

__________________________________________
__________________________________________
__________________________________________

Sad Video Response

Please provide a brief one word to one sentence response:

After watching the video clips what did you think about the video? (I.e. Have you recently experienced the loss of someone close to you?)

__________________________________________
__________________________________________
__________________________________________

Neutral Video Response

Please provide a brief one word to one sentence response:

After watching the video clips what did you think about the video? (I.e. Did you think the video was interesting? Boring?)

__________________________________________
__________________________________________
__________________________________________
APPENDIX I
DEMOGRAPHIC SURVEY

Instructions: Please answer the following questions by filling in the blank or circling the appropriate option.

1. What is your age in years? ______

2. What is your gender? Male Female

3. What is your ethnicity? ______

4. Is English your Native Language? Yes No

   4a. If English is not your Native Language please list your Native language. ______

5. What is your major? ______

6. What year are you in your current program? ______

7. Are you a graduate student or undergraduate student? Graduate Undergraduate
APPENDIX J

TABLES

Table 2

*Means and Standard Deviations by Condition for the pre-and post-PANAS-X Scores*

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Pretest Mean (SD)</th>
<th>Posttest Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Happy Condition (n = 34)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>2.87(.80)</td>
<td>3.23(.81)</td>
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<tr>
<td>Negative Affect</td>
<td>1.78(.83)</td>
<td>1.35(.74)</td>
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<tr>
<td><strong>Sad Condition (n = 32)</strong></td>
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<td></td>
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<tr>
<td>Positive Affect</td>
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<tr>
<td>Negative Affect</td>
<td>1.46(.45)</td>
<td>1.70(.64)</td>
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<tr>
<td><strong>Neutral Condition (n = 34)</strong></td>
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<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>2.96(.71)</td>
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<tr>
<td>Negative Affect</td>
<td>1.72(.67)</td>
<td>1.29(.36)</td>
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Table 3

*Means and Standard Deviations of Response Times and Accuracy by Text*

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Bridging</th>
<th>Predictive</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Strong</td>
<td>Weak</td>
</tr>
<tr>
<td></td>
<td>M(SD)</td>
<td>M(SD)</td>
<td>M(SD)</td>
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<tr>
<td>Response Time</td>
<td></td>
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<tr>
<td>(n = 96)</td>
<td>873.58</td>
<td>751.67</td>
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<td>(.08)</td>
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Table 4

*Means and Standard Deviations by Condition for Response Times*

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<td></td>
<td>M(SD)</td>
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<td>Weak</td>
</tr>
<tr>
<td>Happy Condition</td>
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<tr>
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<td>850.21</td>
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<tr>
<td></td>
<td>(234.97)</td>
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<tr>
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<td>(n = 32)</td>
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Table 5

*Means and Standard Deviations by Condition for Accuracy*

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<td>Weak</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy Condition</td>
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<td>.997</td>
<td>.98</td>
</tr>
<tr>
<td>(n = 32)</td>
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<td>(.02)</td>
<td>(.05)</td>
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<td>.97</td>
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<tr>
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<td>(.08)</td>
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<td>Neutral Condition</td>
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<td>.97</td>
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<td>(.03)</td>
<td>(.09)</td>
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