COMMENTARY AND REPLY

Updating Situation Models

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The authors examined how situation models are updated during text comprehension. If comprehenders keep track of the evolving situation, they should update their models such that the most current information, the here and now, is more available than outdated information. Contrary to this updating hypothesis, E. J. O'Brien, M. L. Rizzella, J. E. Albrecht, and J. G. Halleran (1998) obtained results suggesting that outdated or incorrect information may still influence the comprehension process. The authors of the current study demonstrate that the nature of E. J. O'Brien et al.'s materials were the likely cause of this pattern of results. Hence, the current authors constructed materials that circumvent identified confounds and in a reading-time experiment obtained evidence supporting the here-and-now hypothesis.

When people comprehend text, they form mental representations of the described state of affairs termed *situation models* (Johnson-Laird, 1983; Van Dijk & Kintsch, 1983; Zwaan & Radvansky, 1998). As the described events unfold, the comprehender has to continuously update his or her mental representation. Characters move to new locations, objects are left behind, events are no longer operative, lost objects are found again, and so on. Successful comprehension is impossible without some form of updating. O'Brien, Rizzella, Albrecht, and Halleran (1998) contrasted two different views on updating situation models. According to what we refer to as the *resonance view* (Myers & O'Brien, 1998), information coming in during language comprehension resonates with all information in memory, even with information that is no longer up to date. Because outdated information may get reactivated, it can be brought back into working memory where it can interfere with the integration of current information. According to the *here-and-now view* of situation-model updating (e.g., Morrow, Greenspan, & Bower, 1987), information that is currently relevant to the protagonist (e.g., because of physical proximity or relatedness to a goal) is more accessible than information that does not meet these criteria (see Zwaan & Radvansky, 1998, for a review of the relevant literature).

In O'Brien et al.'s (1998) Experiment 1, participants read stories such as the one presented in Appendix A. There were three conditions: consistent, inconsistent, and qualified. In the consistent condition, two target sentences described events that were consistent with a prior description of the character. For example, in the

story in Appendix A, Bill's acts of running across the street and picking up the boy are consistent with his youthfulness and physical fitness. In the inconsistent condition, the two target sentences were not consistent with a prior description of the character. For example, an old man in poor physical health is not likely to accomplish the feats described in the two target sentences. Finally, in the qualified condition, the description from the inconsistent condition was amended by inserting a qualification. For example, in the story about Bill it was mentioned that his age and health never prevented him from acting in emergency situations. In subsequent experiments, the qualification was made increasingly stronger, culminating in Experiment 5, in which an inconsistent characterization was introduced that was later retracted. The dependent measures were reading times on two target sentences.[1]

According to the resonance view, the consistent condition should yield shorter reading times than the inconsistent condition. The qualified condition should fall in the middle. It produces shorter reading times than the inconsistent condition, because it contains information that is consistent with the updated part of the memory representation, but longer reading times than the consistent condition, because it also contains outdated information with which the target sentences are inconsistent. The here-and-now view predicts that the consistent condition and the qualified condition should yield equivalent reading times, each faster than those produced in the inconsistent condition.

In five experiments, O'Brien and colleagues (1998) consistently found that the key qualified condition produced longer reading times than the consistent condition and therefore concluded that the evidence supported the resonance view and not the here-and-now view of situation-model theory. Unfortunately, the stories used by O'Brien et al. make it impossible to test these predictions because plausibility and word-level associations were not con-

[1] O'Brien et al. (1998) used two target sentences. Because the patterns for these sentences were similar and because the two theories did not make different predictions for the second sentences than they did for the first, our main focus was on the first target sentence.

trolled.[2] Given the potentially confounding effects of these factors, the here-and-now view would actually make the same predictions as the resonance view for these materials. Because situation models are constructed on the basis of information derived from the text as well as the comprehender's general knowledge (Van Dijk & Kintsch, 1983), the fit of incoming information with the comprehender's prior knowledge affects the integration process. Thus, it is important to ensure plausibility equivalence across conditions. Both the resonance and the here-and-now views assume that basic semantic overlap among sentences may affect the comprehension process. Therefore, it is also important to make sure there are no differences in semantic overlap among conditions.

Experiment 1A

As the story in Appendix A suggests, the qualified and consistent conditions are not equivalent in terms of plausibility.[3] It is much more plausible for a healthy 20-year-old man to run across the street to pick up a boy than it is for an 81-year-old man, let alone one who has problems walking normally. O'Brien et al. (1998) collected and reported (p. 1203) plausibility ratings for the qualified and inconsistent versions of the stories used in their Experiments 1 and 2. Unfortunately, they did not collect plausibility information for the consistent condition, which is pivotal for evaluating the contrasting predictions from the resonance models and the situation-model theory. We attempted to replicate and extend O'Brien et al.'s plausibility findings by including the consistent condition along with the other two conditions. In doing so, we focused on their Experiments 1 and 5. We selected Experiment 1 because it provided the anchor for O'Brien et al.'s subsequent manipulations. We selected Experiment 5 because it contained the strongest qualification of the inconsistent description: It was a lie, a joke, or a mistake (see Appendix B). O'Brien et al.'s logic was that this qualification would make it the most difficult to find differences in reading times between the consistent and the qualification conditions. Using the same logic, we also reasoned that this qualification would make it the most difficult to find differences in plausibility between the same two conditions.

Method

Participants. Eighteen undergraduate psychology students enrolled at Florida State University participated in the experiment for course credit. All participants were native English speakers.

Materials and design. The stories from O'Brien et al.'s (1998) Experiment 1 were used. The three conditions (consistent, inconsistent, qualified) were counterbalanced across three lists of stories. Each participant saw only one list.

Procedure. The procedure was almost identical to that used by O'Brien et al. (1998), except that all three conditions (consistent, inconsistent, qualified) were present in the design, counterbalanced across three lists, and the stories were presented on a single computer screen rather than in a booklet. Each story was presented in paragraph format up to the target sentence. Participants were instructed to read the entire passage and then to press the space bar. Upon pressing the space bar, they were presented with a question asking them to rate, on a 7-point scale ranging from 1 (*highly implausible*) to 7 (*highly plausible*), the likelihood that the target action could occur. The question was a rewording of the initial target sentence (e.g., *How likely is it that Bill quickly ran and picked the boy up?*).

Results

Our participants' plausibility ratings for the qualified and inconsistent conditions closely matched those of O'Brien et al. (1998), suggesting that the minor difference in procedure did not affect the results. The qualified condition had a mean plausibility rating of 3.94 (the corresponding mean was 3.86 in O'Brien et al.'s study), and the inconsistent condition had a mean of 2.12 (2.13 in O'Brien et al.'s study). For the critical consistent condition, the mean plausibility rating was 5.73. An analysis of variance (ANOVA) yielded a significant effect of condition, $F(2, 30) = 78.86$, $MSE = 0.72$. (In all the statistical analyses reported in this article we assumed an alpha level of .05, applying the Bonferroni correction for the number of comparisons when needed.) The inconsistent condition received lower plausibility ratings than either the consistent condition, $F(1, 15) = 101.64$, $MSE = 1.11$, or the qualified condition, $F(1, 15) = 52.45$, $MSE = 0.49$. Most important, however, the qualified condition (3.94) was rated significantly less plausible than the consistent condition (5.73), $F(1, 15) = 56.28$, $MSE = 0.55$.

Experiment 1B

In O'Brien et al.'s (1998) Experiment 5, it was explicit that the critical characteristic (e.g., Bill was an 81-year-old man with walking problems) was never true of the main character, that is, it was presented as a lie, a joke, or a misunderstanding on the part of another character in the story. Again, however, there was a potential difference in plausibility between the consistent and qualified conditions in Experiment 5. In the consistent condition, the main character was always described as having characteristics that were informative for integrating the target sentence. For example, a main character who in the target sentence signed up for boxing classes, was described in the story as a 250-pound, muscular man who loved tough physical contact sports. The inconsistent condition described only someone who lied about the main character by saying he was small, weighed 120 pounds, and disliked contact sports. Thus, contrary to the consistent condition, no specific information about the character was given, unless one made the implausible assumptions (a) that the comprehender would specifically infer on the basis of this information that the protagonist must have been big and muscular, weighed 250 pounds, and liked tough contact sports and (b) that this inference carried as much weight as the explicitly stated information in the consistent condition.

Thus, the two conditions should differ in plausibility. In the consistent condition, the comprehender has constructed a mental representation of the protagonist that included characteristics helpful for integrating the current model constructed from the target sentence. In the qualified condition, no such information was available. The comprehender has only an idea of what the protagonist was not like and therefore has less information in the situa-

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tion model that was relevant to interpreting the target sentence. As a consequence, the sentence should be considered less plausible. We conducted a plausibility-rating experiment on the stories from O'Brien et al.'s (1998) Experiment 5 to test this prediction.

Method

Participants. Twenty-five undergraduate psychology students enrolled at Florida State University participated for course credit.

Materials and design. The stories from O'Brien et al.'s (1998) Experiment 5 were used. The three conditions (consistent, inconsistent, qualified) were counterbalanced across three lists of stories.

Procedure. The procedure was identical to that of the present Experiment 1A.

Results

The qualified condition had a mean plausibility rating of 4.26, the inconsistent condition had a mean of 1.96, and the consistent condition 5.82. There was a significant effect of condition, $F(2, 48) = 98.14$, $MSE = 0.96$. The inconsistent condition was rated less plausible than either the consistent condition, $F(1, 24) = 191.31$, $MSE = 0.98$, or the qualified condition, $F(1, 24) = 62.19$, $MSE = 1.07$. Most important, similar to results in O'Brien et al.'s (1998) Experiment 1, the qualified condition was rated as significantly less plausible than the consistent condition, $F(1, 24) = 35.92$, $MSE = 0.84$. Thus, these results supported our prediction. They also show that the reading time data for O'Brien et al. did not provide an appropriate forum to test the resonance and here-and-now views, because the latter would also predict a difference in reading times between the consistent and qualified conditions, given the difference in plausibility.

Experiment 2

Although situation-model theorists do assume that constructing situation models is the purpose of most language comprehension, they also assume that surface-level or semantic factors play a role in comprehension (e.g., Johnson-Laird, 1983; Kintsch, 1998; Van Dijk & Kintsch, 1983). Accordingly, most studies demonstrating the role of situation models have made efforts to keep the surface structure as similar as possible across conditions while varying situational information. O'Brien et al.'s (1998) conditions differ rather dramatically in terms of wording. One important issue is the semantic overlap between the introduction and the target sentence. To the extent that a sentence has more semantic overlap with a prior context, it should be easier to integrate, as is suggested by many models of comprehension. We measured semantic overlap by using latent semantic analysis (LSA; Kintsch, 1998; Landauer & Dumais, 1997). LSA is a mathematical-statistical technique for extracting and representing the similarity of meaning of words and passages by analysis of large bodies of text (Landauer & Dumais, 1997). The degree of semantic relatedness of a word pair is operationalized as the cosine of the contained angle of the vectors representing the meanings of words.

Method

Materials. As with the plausibility ratings, we used the texts from O'Brien et al.'s (1998) Experiments 1 (the anchor) and 5 (the strongest manipulation).

Procedure. We computed cosines between each sentence from the introduction and its respective target sentence. We used the largest cosine, rather than the average, as our measure. Information that is the most relevant with respect to the current sentence is more likely to influence integration of that sentence than unrelated information. Unlike the average, the maximum is not affected by the presence of low-overlap sentences. Prior to this, we had removed protagonist names from all of the sentences, as these were devoid of semantic meaning and tended to skew the cosines. We used the Matrix Comparison program (Landauer, Foltz, & Laham, 1998) from the LSA Web site (http://lsa.colorado.edu), with the default settings for Document to Document analysis, using the General Reading up to First Year of College corpus.

Results

For O'Brien et al.'s (1998) Experiment 1, we obtained the following average maximum cosines for the consistent, qualified, and inconsistent conditions: .36, .35, and .34, respectively. These values are quite similar. Most important, the consistent and qualified conditions were not significantly different from each other, (Fs < 1). Even though these two conditions differed widely in wording and length, the overlap between the introduction and the first target sentence as assessed by our LSA procedure was equivalent across conditions. We performed the same analysis on the stories of O'Brien et al.'s Experiment 5. We expected a difference here based on the story content differences between consistent and qualified conditions, with the former appearing to mention more characteristics relevant to the target sentence than the latter. The average maximum cosines for the consistent, qualified, and inconsistent conditions were .34, .28, and .32, respectively. The difference between experiments was significant, $t(17) = 2.49$, $SE = 0.025$. Thus, the consistent condition in Experiment 5 had a greater overlap with the target sentence than did the qualified condition, whereas this was not the case in Experiment 1. We should emphasize that LSA probably provides an underestimation of the actual degree of semantic overlap. For example, it is not particularly sensitive to negation. The sentence *He ran cross the street and picked up the boy* has a cosine of .25 when paired with *He could run a mile,* and a cosine of .24 when paired with *He could not run a mile*. This is important, because it is by way of implicit negation that the qualified condition was created.

Experiment 3

Our analyses of O'Brien et al.'s (1998) materials suggest that it is impossible to draw conclusions from the difference in reading times between the consistent and qualified conditions regarding the resonance and here-and-now views on updating.[4] In order to

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[4] There is a methodological problem with interpreting the data the way O'Brien and colleagues (1998) did. Their main conclusion is that the reading times for the qualified condition fell in between those for the other two conditions which suggests that people were not updating completely in this condition. However, because this conclusion is based on aggregate data (averages across stories and across subjects), the pattern is also consistent, in theory, with the idea that updating is all or none. For example, the same pattern would result if some participants updated completely, whereas others did not update at all, or if all participants updated completely for some of the texts (not necessarily the same ones), but not for others, or some combination of this.

perform a meaningful test of the predictions generated by these views, we conducted an experiment with new materials. Our previous analyses convinced us that the problems with O'Brien et al.'s materials were such that they could not be easily freed of confounds. Thus, we tried to generate stories in which the updated situation was as plausible as the control condition and in which the story versions did not differ in terms of semantic overlap. We adapted stories originally used to study elaborative inferences.[5] All of the stories described actions that involve an instrument. We created three conditions, analogous to O'Brien et al.'s consistent, qualified, and inconsistent conditions, called enablement, reenablement, and disablement. In the enablement condition, the instrument was always available for use throughout the story. In the reenablement condition, the instrument was not initially available for use (because it was lost or broken), but then it (or a replacement) became available for use (it was found, repaired, or replaced). In the disablement condition, the instrument was never available for use throughout the story (because it was lost or broken). The target sentence described the protagonist using the instrument. Appendix C presents a sample story. (All of the experimental texts can be downloaded from http://freud.psy.fsu .edu/~zwaan/ZM-UPDATE.doc).

Method

Participants. Eighteen undergraduate psychology students enrolled at Florida State University participated for course credit.

Materials. There were 36 narrative passages in each of three experimental conditions (enablement, disablement, and reenablement). The stories were controlled for surface-level and word-level features. The introduction to each story consisted of three sentences, 30 words total. The subsequent enablement, disablement, and reenablement condition sections each consisted of four sentences comprising 50 words total, with two explicit mentions and one implicit mention of the target instrument. Next were five filler sentences, consisting of 58 words total. The target sentence was always nine words in length, and the number of characters was constrained within 53–58 characters. The target sentence was followed by a four-sentence closing, consisting of 34 words total. Each story was followed by a yes or no comprehension question to ensure that the participants were reading for comprehension. The three conditions yielded three random order story lists that were presented in a between-participants design. List was used as a factor in the ANOVAs reported below.

To ensure that our enablement and reenablement conditions were equally plausible, we performed a norming study identical to the ones we performed on O'Brien et al.'s (1998) materials. Eighteen psychology students provided plausibility ratings on a 7-point scale ranging from 1 (*highly implausible*) to 7 (*highly plausible*). The mean plausibility ratings were 5.92 for enablement, 5.53 for reenablement, and 1.94 for disablement. Disablement was rated significantly less plausible than enablement, $F(1, 15) = 142.56$, $MSE = 0.38$, and reenablement, $F(1, 15) = 201.34$, $MSE = 0.58$. The .39 difference between the enablement and reenablement conditions was small but approached significance, $F(1, 15) = 4.35$, $MSE = 0.31$, $p = .06$. The means for the enablement and disablement conditions were very similar (i.e., within half a rating point) to those we obtained for O'Brien et al.'s stories. In fact, there were no significant differences between our enablement condition and O'Brien et al.'s corresponding consistent condition, $t(34) = -0.69$, $SE = 0.26$, for their Experiment 1 and, $t(41) = 0.67$, $SE = 0.25$, for their Experiment 5; and between our disablement condition and O'Brien et al.'s corresponding inconsistent condition, $t(34) = -0.57$, $SE = 0.34$, for Experiment 1 and, $t(41) = 0.05$, $SE = 0.26$, for Experiment 5. In contrast, our reenablement stories were rated as significantly more plausible than those in O'Brien et al.'s corresponding qualified condition, $t(34) = 5.72$, $SE = 0.28$, for Experiment 1

and, $t(41) = 3.73$, $SE = 0.34$, for Experiment 5. We also conducted an LSA analysis, as described in the *Procedure* section of Experiment 2, on our materials. The average maximum cosines were .48 for enablement, .46 for disablement, and .48 for reenablement. As expected, given the small differences in wording among the conditions, there were no significant differences (all $ps > .25$). Thus, our conditions were equivalent in terms of semantic overlap between the introduction and the target sentence.

Procedure. Instructions explaining that the participant was to read short passages and answer questions about them were displayed on a computer screen. Participants pressed a key on the keyboard marked "Y" to respond yes, and a key marked "N" to respond no. Pressing the space bar advanced the participant from sentence to sentence as well as from sentence to question. Participants kept one index finger on the "Y" key, one index finger on the "N" key, and a thumb on the space bar for the duration of the experiment. The stories were displayed one line at a time, left justified on the screen to mimic normal line-by-line reading. The line length was matched to the average target sentence length. The trials were self-paced, and the participants were told that they were being timed and were encouraged to read at a normal pace. Reading times for the target sentences were collected. The experiment lasted approximately 40 min.

Results

The average reading times for the target sentences were as follows: 2,575 ms for the enablement condition, 2,462 ms for the reenablement condition, and 2,805 ms for the disablement condition. A 3 (condition) × 3 (list) ANOVA revealed a significant effect of condition both by participants, $F1(2, 54) = 9.05$, $MSE = 101,479$, and by items, $F2(2, 66) = 12.35$, $MSE = 88,010$. The disablement condition yielded significantly longer reading times than both the enablement condition, $F1(1, 27) = 6.42$, $MSE = 123,924$; $F2(1, 33) = 13.33$, $MSE = 69,889$, and the reenablement condition, $F1(1, 27) = 14.95$, $MSE = 116,889$; $F2(1, 33) = 21.05$, $MSE = 99,594$. However, there was no significant difference between the latter two conditions, $F1(1, 27) = 2.58$, $MSE = 72,384$, $p > .12$; $F2(1, 33) = 2.46$, $MSE = 94,549$, $p > .12$. Thus, the disablement condition produced significantly longer reading times than did the other two conditions, but there was no difference between the enablement and reenablement conditions. If anything, the reenablement reading times were shorter than the enablement reading times.

General Discussion

Our results show that comprehenders are able to update situation models, such that new information that is inconsistent with the prior situation, but consistent with the current situation, can be integrated as easily as information that never was inconsistent. Our materials were constructed so that our enablement and reenablement conditions were equivalent in terms of plausibility and in terms of word-level factors (i.e., number of words, number of mentions, and basic semantic overlap). As such, the results cannot be ascribed to a lack of control on these dimensions. This is different from the materials used by O'Brien et al. (1998). As our analyses demonstrate, the relevant conditions differ in terms of plausibility and also, for at least one experiment, in terms of semantic overlap between the target sentence and the prior context. Both of these factors yield greater ease of integration of the target

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[5] We thank Janice Keenan for making these materials available to us.

sentence in the consistent condition than in the qualified condition. As we have pointed out, because of this ease of integration, the here-and-now view, like the resonance view, predicts longer target sentence reading times for the qualified condition than for the consistent condition. As such, the results of O'Brien et al.'s experiments cannot provide substantial evidence either against the here-and-now view or in favor of the resonance view, whereas the evidence from our experiments supports the here-and-now view.

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Appendix A

Sample Story From O'Brien et al.'s (1998) Experiments 1–4

Introduction. Bill had always enjoyed walking in the early morning, and this morning was no exception. During his walks, he would stop to talk with some of his neighbors.

Consistent elaboration. Bill had just celebrated his twenty-fifth birthday. He felt he was in top condition, and he worked hard to maintain it. In fact, he began doing additional workouts before and after his walks. He could now complete a 3-mile run with hardly any effort.

Inconsistent elaboration. Bill had just celebrated his eighty-first birthday. He didn't feel as strong as he was twenty years ago. In fact, Bill began using a cane as he hobbled along on his morning walks. He could not walk around the block without taking numerous breaks.

Qualified elaboration: Experiment 1. Bill had just celebrated his eighty-first birthday. He didn't feel as strong as he was twenty years ago. In fact, Bill began using a cane as he hobbled along on his morning walks. He could not walk around the block without taking numerous breaks. Nevertheless, his age never prevented him from acting in emergency situations.

Qualified elaboration: Experiment 2. Bill had just celebrated his eighty-first birthday. He didn't feel as strong as he was twenty years ago. In fact, Bill began using a cane as he hobbled along on his morning walks. He could not walk around the block without taking numerous breaks. Although he was old, he could still engage in feats of strength in emergency situations.

Qualified elaboration: Experiment 3. Last month, Bill had badly sprained his ankle. He recalled that because of this, he had not felt as strong as he was used to feeling. In fact, during that time, he had been using a cane

when he hobbled along on his morning walks. He had not been able to walk around the block without taking numerous breaks.

Qualified elaboration: Experiment 4. Last month, Bill had badly sprained his ankle, but it no longer hurt him. He recalled that because of this, he had not felt as strong as he was used to feeling. In fact, during that time, he had been using a cane when he hobbled along on his morning walks. He had not been able to walk around the block without taking numerous breaks.

Filler. Today, Bill stopped to talk with Mrs. Jones. They had been friends for quite some time. They were talking about how hot it had been. For the past three months, there had been record-breaking high temperatures and no rain. Soon there would be mandatory water rationing. As Bill was talking to Mrs. Jones, he saw a young boy who was lying in the street hurt.

Target sentence 1. He quickly ran and picked the boy up.

Target sentence 2. Bill carried the boy over to the curb.

Closing. While Bill helped the boy, Mrs. Jones ran into her house to call the boy's mother and an ambulance. He kept the boy calm and still until help arrived.

Comprehension question. Did Bill hate walking in the morning?

(Appendixes continue)

Appendix B

Sample Story From O'Brien et al.'s (1998) Experiment 5

Introduction.   Bill had always enjoyed walking in the early morning, and this morning was no exception. During his walks, he would meet his neighbor Dave, and they would walk together.

Consistent elaboration.   Bill had just celebrated his twenty-fifth birthday. He felt he was in top condition, and he worked hard to maintain it. In fact, he began doing additional workouts before and after his walks. Bill could now complete a 3-mile run with hardly any effort.

Inconsistent elaboration.   Bill had just celebrated his eighty-first birthday. He didn't feel as strong as he was twenty years ago. In fact, he began using a cane as he hobbled along on his morning walks. Bill could not walk around the block without taking numerous breaks.

Qualified elaboration.   Dave once played a joke on Bill when he placed an advertisement at a dating service that was full of lies. He said Bill had just celebrated his eighty-first birthday. The advertisement stated that Bill had started using a cane as he hobbled along on his morning walks. Dave said that Bill couldn't walk around the block without taking numerous breaks.

Filler.   Bill and Dave had been friends for quite some time. While walking today, they were talking about how hot it had been. For the past three months, there had been record-breaking high temperatures and no rain. Soon there would be mandatory water rationing. As Bill was talking to Dave, he saw a young boy who was lying in the street hurt.

Target sentence 1.   Bill quickly ran and picked the boy up.

Target sentence 2.   He carried him to the side of the road.

Closing.   While he helped the boy, Dave went into his house to call the boy's mother and an ambulance. Bill kept the boy calm and still until help arrived.

Note.   From "Updating a Situation Model: A Resonance Text Processing View," by E. J. O'Brien, M. L. Rizzella, J. E. Albrecht, and J. G. Halleran, 1998, *Journal of Experimental Psychology: Learning, Memory, and Cognition, 24,* p. 1210. Copyright 1998 by the American Psychological Association. Reprinted with permission of the author.

Appendix C

Sample Story Used in Experiment 3

A Bird House

Introduction.   Bobby really enjoyed bird watching. He wished more birds would come to his house. He decided to build a bird house in order to attract more birds to his yard.

Disable condition.   Bobby took out a saw, but then remembered that he had lost his hammer. He hadn't used it in a while and he didn't know where to look. He checked in the basement but came up empty handed. After some searching, he still couldn't find the hammer and gave up.

Enable condition.   Bobby took out his hammer, but then remembered that he had lost his saw. He wasn't worried because he knew the saw was not important. He really needed the hammer to put the bird house together. He was glad he put it away after he used it last time.

Reenable condition.   Bobby took out a saw, but then remembered that he had lost his hammer. He hadn't used it in a while and he didn't know where to look. He checked in the basement but came up empty handed. After some searching, he found the hammer in his father's tool shed.

Filler.   Bobby began gathering the rest of the materials that he would need. He had made out a list so he wouldn't forget anything. He collected the lumber and paint he had bought. He had already selected an oak tree as the site for the birdhouse. It was a giant tree that he could see from his bedroom window.

Target sentence.   Bobby began pounding the boards together with the hammer.

Closing.   The hammer was quite heavy for his young arm. Bobby was pleased with how well the birdhouse came out. He couldn't wait to watch all the birds that would come to his new birdhouse.

Question.   Was Bobby building a doghouse?