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Effects of Instructions and Delay of Recall on Memory for Central and Peripheral Detail in a Simulated Crime

Donna M. Gamble
University of Manitoba

A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfilment of the Requirements
for the Degree of
MASTER OF ARTS

Department of Psychology
University of Manitoba
Winnipeg, Manitoba

THE UNIVERSITY OF MANITOBA

FACULTY OF GRADUATE STUDIES

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for Central and Peripheral Detail in a Simulated Crime

By

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A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University

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Abstract

The effects of type of instruction (detail vs. neutral vs. crime), delay of recall (immediate vs. 48 hours), and gender (female vs. male), on participants' recall of correct detail (central vs. peripheral) from a slide sequence that depicts a minor crime were investigated. Introductory psychology participants were randomly assigned to conditions in a 3 x 2 x 2 x 2 mixed factorial design. Participants viewed the slide sequence and then were asked to recall as many details as possible. A six-item, critical-item quiz used by other investigators was also administered to participants. Females recalled significantly more correct peripheral items than males, but did not differ on correct central, correct critical-items, or number of errors made. Delay in recall resulted in significantly fewer correct details in the peripheral and critical-item measures, but had no significant effect on the number of correct central details recalled. The detail instructions resulted in a significant increase in correct responding on the peripheral and critical-item measures and a significant decrease in correct responding on the central-item measure, as compared to both the neutral and crime instructions. The neutral and crime instructions did not differ significantly from one another in their effects on peripheral, central, or critical-item measures. The author suggests that participants had a common script for minor crimes. Unless specifically instructed to attend to peripheral detail unrelated to the crime, they attended to central detail. Past research on the misinformation effect with the McCloskey and Zaragoza (1985a) slides has utilized neutral instructions, but has concentrated on measures that are composed primarily of peripheral detail. Implications for the ecological validity of the misinformation analogue are discussed.

Effects of Instructions and Delay of Recall on Memory for Central and Peripheral Detail in a Simulated Crime

Imagine that you have just witnessed a robbery. A maintenance man entered an office to repair a chair. Before leaving the office, he examined the contents of a shopping bag, opened an envelope, and removed 20 dollars. He also unlocked a desk drawer and found a calculator that he then put into his toolbox. When the police detectives come to interview you, they ask what brand of cigarettes he smoked and about the contents of his toolbox. These seem like reasonable questions to you; however, they have other questions. They ask you to name the brand of coffee that was in the jar on the cabinet near the door, the letter of the alphabet that decorated a mug on the desk, the brand of soft drink that sat amid the clutter on another desk, and the name of the magazine that was on the table near the ashtray. When you are unable to provide these critical details, you are rejected as an eyewitness. The detectives do not ask you how tall the man was, whether he was clean-shaven or had a beard, nor do they want to know whether you recall anything about the clothing he wore. Is this strange behavior for detectives?

The crime scene described above is one depicted in a series of slides used by McCloskey and Zaragoza (1985a) in an experimental analogue to investigate the effects of misleading information on eyewitness testimony. Numerous investigators have used these slides in similar experimental analogues (e.g. Belli, 1989; Belli, Lindsay, Gales & McCarthy, 1994; Bonto & Payne, 1991; Dodson & Reisberg, 1991; Loftus, Donders, Hoffman & Schooler, 1989; Zaragoza & Koshmider, 1989; Zaragoza, McCloskey & Jamis, 1987). Although participants generally are not interviewed as if they were actual eyewitnesses, they <u>are</u> asked questions about details of the office scene.

<u>The Eyewitness Testimony Analogue and the Misinformation Effect</u>

The experimental analogue used to investigate eyewitness testimony

appears equivalent to the situation in which an eyewitness encounters contradictory information between the time of witnessing an event and the time of testifying about that event in court. The experimental paradigm has three phases (Loftus, Miller & Burns, 1978). In the first phase, participants are shown a set of slides that depicts a sequence of events such as an auto-pedestrian accident or a minor crime (e.g., a theft). In the second phase, they are given a questionnaire, or are asked to read a narrative, in which misleading information is embedded. For example, in Loftus et al. (1978), participants who had seen a yield sign (not a stop sign) in the slide sequence were asked, "Did another car pass the red Datsun when it was stopped at the stop sign?" In the McCloskey & Zaragoza (1985a) study, participants read a postevent narrative that presented either misleading (experimental) or neutral (control) information about critical items in the slide sequence. For example, if participants had seen a man smoke a Winston cigarette and put a hammer in his toolbox, they might read that he had smoked a Pall Mall cigarette (experimental) and put a tool (control or non-specific item) in his toolbox. In the third phase, participants generally are tested on the critical items by means of a forced-choice recognition test (between the event item, and either the misled or a novel item), or by a questionnaire which asks for recall of the original critical item.

The term "misinformation effect" refers to the memory impairment caused by the introduction of postevent misleading information. The effects reported in the literature have varied. Some researchers have found that misinformation has a negative effect on recall of original event information (e.g. Belli, 1989; Belli, Lindsay, et al., 1994; Belli, Windschitl, McCarthy, & Winfrey, 1992; Dodson & Reisberg, 1991; Lindsay, 1990; Lindsay & Johnson, 1989b; Loftus et al., 1978; Loftus et al., 1989; Schooler, Gerhard, & Loftus, 1986; Tversky & Tuchin, 1989). Other researchers have found no misinformation effect (e.g. Bekerian & Bowers 1983; Christiaansen & Ochalek, 1983; Lindsay & Johnson, 1989a;

McCloskey & Zaragoza, 1985a; Zaragoza & Koshmider, 1989; Zaragoza, McCloskey, & Jamis, 1987). Among potential causes for this variation are the variety of testing materials and the new testing procedures that have been developed. A brief summary of the principle issues discussed in the literature follows.

The Misinformation Effect: Principle Issues

Hypothesized mechanisms.

Over the past 20 years there has been a lively debate about the nature of the mechanisms that cause the reported misinformation effects. Loftus et al. (1978) interpreted their results to mean that the memory "trace" for the original event had been replaced by the misinformation "trace". Both Bekerian and Bowers (1983) and Christiaansen and Ochalek (1983) disagreed, stating that both the original and misleading information continued to exist in memory. Bekerian and Bowers hypothesized that forgetting of the original information was caused by lack of appropriate cues at retrieval. Christiaansen and Ochalek found that warning participants that the postevent information they had received was false eliminated the effect of misinformation, suggesting that the original memory still existed.

Lindsay (1994) agreed that the memory of the original event and the postevent misinformation might coexist. He suggested that participants who reported memories of misinformation in place of the original event memories were simply misidentifying the source of their recollections. The two events are concerned with the same topic and are often presented closely together in time, and in the same context. These similarities may lead participants to misidentify postevent memories as event memories. The source-monitoring hypothesis suggests that this may be especially true if participants are involved in a recognition task, and have adopted a familiarity criterion to distinguish what was seen from what was not seen. Jacoby, Woloshyn and Kelley (1989) concluded that attempting to recall a specific memory is a separate and more attention-demanding task than that of assessing

familiarity. The yes/no and forced-choice pairs that were typical in earlier recognition tests of eyewitness testimony might be more likely than other kinds of tests to lead participants to adopt a familiarity criterion (and thus to demonstrate the misinformation effect), since most test questions consisted of familiar/novel item decisions (Lindsay, 1994).

Forced-choice recognition. McCloskey and Zaragoza (1985a) suggested that forced-choice recognition between the original and misled item was an inappropriate procedure for assessing the effect of misinformation. The argument in favor of poorer memory for misled participants held only if all participants had seen and remembered the original information. They pointed out that the probability of a correct response for individuals in a control group, who had not seen or had forgotten the original information, would be expected to be 50% by chance. Individuals in an experimental group that had received misleading information, who had not seen or had forgotten the original information, however, had read the misinformation and thus would be systematically biased against choosing the correct alternative. Poorer performance would be expected from misled participants, even if there were no effect of misinformation on memory for the original stimulus. McCloskey and Zaragoza developed a modified procedure in which participants read a narrative that presented misleading information for two critical details, and neutral information about two other critical items. Participants were then asked to choose between the original item and a novel item. No statistically significant misled/control differences were found. In later investigations (Zaragoza et al., 1987), a recall measure was used in place of the two-alternative, forced-choice recognition test. Again, no statistically significant misled/control difference emerged.

Demand characteristics. McCloskey and Zaragoza (1985a) stated that another potential problem with the experimental analogue was the

tendency for some individuals to be more inclined to trust the narrative information than their own memories. Thus, certain characteristics of the experimental situation might induce some participants to report misleading information even when they have a clear memory for the original event. Participants might be inclined to report what they read in the postevent information, if they believe the researcher will count their response as wrong, or if they simply believe that they should agree with the researcher (Zaragoza & Koshmider, 1989). Ryan and Geiselman (1991) determined that some participants, who initially found the postevent narrative to contain information that contradicted their own memories, admitted that they had accepted the misinformation believing that the investigators would not intentionally supply them with incorrect information. In addition, participants who have not seen or remembered the original event, and who have no reason to distrust the postevent information, may report having seen the misled item in order to present themselves as having better memories.

Logic-of-opposition instructions. To counter these demand characteristics, Lindsay (1990) adapted Jacoby et al.'s (1989) technique of putting conditions for recall in opposition to the effects of misleading information (the logic-of-opposition paradigm). Participants were told at the time of the test that there were no correct answers for test questions in the postevent narrative. If participants could correctly remember the source of the misinformation they had received, then logically they should not report it, because they would know it was wrong. There were two discrimination conditions, one low and the other high. In the low-discriminability condition, participants saw the slide sequence with an accompanying female voice providing narrative description. During the same session, while continuing to sit at their desks in the same darkened room, they heard the same voice provide the narrative that contained the misinformation. Two days later, they were given the logic-of-opposition instructions and were tested for recall of

control and misled items. In the high-discriminability condition, participants saw the slide sequence with an accompanying female voice during the first session. Two days later, they returned and listened to a postevent narrative containing misinformation, given by a male voice, in an environmental context that was changed by having them stand beside their desks in the fully-lit room. In this second session, they were then given the logic-of-opposition instructions and received the same recall test for control/misled items as the low discriminability group.

As expected, participants in the low discriminability group reported the misinformation items as being in the slide sequence significantly more often than participants in the high discriminability group did. Lindsay interpreted these results as support for his contention that participants, who can determine the source of their memory, and who know that postevent information is incorrect, will not report the misinformation. Christiaansen and Ochalek (1983) obtained similar results when they warned participants in their study that the postevent information had contained a few inaccuracies.

Summary. In the last two decades, some of the problems with the eyewitness analogue, as it was first conceived, have been resolved. Use of source-monitoring manipulations, and recall measures rather than recognition measures has led to more careful consideration of responses by participants, and has given them the opportunity to report information they have gathered from both the slides and the narrative. Logic-of- opposition instructions have helped to minimize, if not eliminate, the demand characteristics and response biases that invalidated earlier studies. Further experimental challenges remain, however, and this study has attempted to meet some of these challenges.

Further Challenges

Ecological validity and experimental control. Banaji and Crowder (1989) suggested that the issue of experimental control is an important one in the study of memory processes. Whether inside or outside of the

laboratory, without experimental control, generalizability of results is restricted. Ecological validity is also concerned with the generalizability of results. The more closely a study parallels the real world, the more generalizable the results. Banaji and Crowder stated that the ideal study is one that is high in both characteristics.

Investigators using the eyewitness analogue have been working toward the ideal balance between experimental control and ecological validity for over two decades. When observing a behavior that has been removed from its natural context, there is a risk of loss of some proportion of ecological validity. Use of an experimental analogue to study eyewitness testimony, however, offers obvious advantages over naturalistic observation. Analogue assessment can quickly elicit the behavior of interest in a controlled setting. The increase in experimental control creates a result that is both consistent and replicable (Nay, 1986). Whereas the occurrence of the required behaviors of an eyewitness is unpredictable with respect to time and setting, and the behaviors occur at relatively low rates, controlled settings with high ecological validity are the best available alternative to naturalistic observation.

Generalizability. In the related context of behavioral assessment, Nay (1986) suggests that the limits of generalizability of any behavior that is being assessed are automatically defined by decisions made by the assessor. First, a decision must be made about what behavior is to be measured. Second, decisions are necessary regarding the settings of interest, the times and occasions that will be examined, the demand characteristics which will operate, and the instructional 'set' which will be provided to participants. Each of these factors limits the generalizability of the obtained result. Third, a methodology must be chosen which can assess the behavior of interest. Finally, decisions must be made about the meaning of the data and about the inferences that can be made on the basis of these data.

The eyewitness experimental analogue has been used to investigate a number of the issues inherent in these decisions. With respect to methodology, the 3-phase paradigm, which is analogous to the introduction of contradictory information between the original event and court testimony, has been widely used by investigators (e.g., Loftus et al., 1978; McCloskey & Zaragoza, 1985a; Belli et al., 1994). Several analogue settings have been investigated, including automobile-pedestrian accidents (Loftus et al., 1978), an office scene (Lindsay & Johnson, 1989a), a shoplifting incident in a department store (Christiaansen & Ochalek, 1983), as well as break-and-enter and attempted robbery (Turtle & Yuille, 1994). Issues related to demand characteristics have been investigated by Lindsay (1990), Ryan and Geiselman (1991), and Zaragoza and Koshmider (1989), among others.

Other issues may, however, deserve close examination. McCloskey and Zaragoza (1985b) wisely asserted that until we are sure of what variables are relevant or irrelevant to the misinformation effect, generalization to the real world is premature. Two of the variables mentioned by Nay (1986), that have received little attention in the literature on eyewitness testimony to date are:

a) the specific behaviors which have been chosen as targets for measurement, and

b) the effect of instructions on the 'set' of the participants or on how they interpret the situation.

Target behaviors. With respect to the specific target behaviors chosen, we must consider how meaningful it is to know that eyewitnesses can be induced to change their testimony regarding magazines and soft drink labels, when these items appear to be peripheral to the crime they have witnessed.

How does the ability to report detail impact upon eyewitness testimony? Wells and Leippe (1981) asked individuals who had witnessed a staged theft to make an identification of the perpetrator from a photo

line-up. Participants were then asked to report information about peripheral details of the room where the mock crime occurred. Participants who were able to correctly identify the thief were least likely to have attended to peripheral detail, whereas those who identified an innocent suspect from the photo line-up averaged more correct answers to questions regarding peripheral details. Both the Wells and Leippe investigation and the Bell and Loftus (1989) study found, however, that participants in the role of jurors were more likely to judge an eyewitness as credible when they were able to provide trivial details, even when they were unrelated to the crime. Mock jurors in both studies appeared to equate memory for detail with ability to identify the culprit, even though the ability to report detail may hamper the ability to report forensically important information.

The eyewitness behaviors targeted for measurement in some studies are peripheral details that are not forensically significant. Of the six critical items (e.g., Lindsay, 1990) often used to investigate eyewitness behavior related to the McCloskey and Zaragoza (1985a) slides, only two appear to be related to the crime. These details <u>might</u> be argued to be forensically significant (e.g., the brand of cigarettes the thief smoked, the contents of his toolbox). The other four critical details that are manipulated appear to be peripheral to the crime (e.g. the magazine on the table, the soda can and the mug on the desks, the jar of coffee on the cabinet). Accepting evidence of the misinformation effect in eyewitness testimony based upon experimental results that are obtained by requesting peripheral detail from participants, would seem to be equivalent to "trivial persuasion" (Bell & Loftus, 1989).

A more ecologically-valid investigation of eyewitness testimony and the misinformation effect would entail manipulation of forensically important details rather than peripheral details. Initially, however, we must determine to which details participants direct their attention. It is essential to know that participants <u>have</u> eyewitness testimony

before we can confidently assert that we have changed it. We must discover which details are judged by individuals as being worthy of being rehearsed for later recall. This, along with knowledge of forensic significance, will allow us to choose behavioral measures that will more easily generalize to actual eyewitness situations.

Instructions. With respect to the instructions we give (or those we do not give), what is the effect on participants' interpretation of the situation and on the details to which they attend? Instructions given may not always have the intended influence upon the participants. Orne (1973) suggests that every investigation potentially consists of two experiments, the one that is planned by the investigator, and the one that is perceived by the participant. Individuals in any experiment make guesses about the behavior that is expected by the investigator. Participants in investigations of eyewitness testimony are usually given neutral instructions that direct them to attend to the stimulus materials because they will be asked questions later, but neutral instructions may not be sufficient to override the participants' preconceived notions about the information that will be requested of them.

In the context of the eyewitness testimony analogue, it is important to know what effect instructions and delay of recall have on the respective roles of central and peripheral detail. In an investigation by Loftus et al. (1978, Experiment 3), one group of participants received a questionnaire with embedded misinformation immediately after seeing a slide sequence. The recognition task was completed after delays of one, two, or seven days. An increasing pattern of correct responses to the forced-choice recognition task occurred with delay. For participants who received the misleading information just before the final forced-choice test, after delays of one, two, or seven days, a decreasing pattern of correct responses to the forced-choice task occurred. The longer the delay in receiving

misinformation, the more errors they made. Loftus et al. attributed this difference to the weakness of the original memory trace, which presumably was easier to alter with misinformation after long delays. In the Lindsay (1990) study, which was discussed earlier, the participants in the high-discriminability condition (who saw the slides and received misleading information 48 hours later, just prior to recall) were significantly less inclined to report misinformation than participants in the low-discriminability condition (who saw the slides and received misleading information in the same session, and participated in a recall session 48 hours later). This finding suggested that the high discriminability participants could correctly identify the source of the misinformation and, therefore, not report it. They were, however, significantly more likely than participants in the low-discriminability condition to have guessed at an answer, as measured by responses generated which were neither present in the slides nor in the narratives. Lindsay speculated that the participants in the high-discriminability condition were less cautious with respect to guessing than those in the low-discriminability condition. With the information from the postevent narrative being more easily discriminable to them, Lindsay thought that participants in the high-discriminability condition might have been more confident that any details that came to their minds originated from the initial viewing of the slides and not from the more recent postevent narrative. Lindsay believed that the timing of the misinformation had created a source confusion that resulted in less stringent source-monitoring criteria for individuals in the high-discriminability condition.

In the preceding investigations, a delay in giving participants misinformation resulted in decreased recognition of, or increased incorrect guessing about original event details. Both investigators attributed these results to the effect of misinformation. There is another plausible explanation related to the interpretation of the

experimental situation by the individual. Participants who receive misleading postevent information immediately after viewing the slide sequence might be cued as to the level and type of detail expected by the investigator. This occurs at a time when individuals who did see the item can still recall what they saw. This cue could counteract the preconceived notions of the participants regarding the kind of details to rehearse for later recall. Participants who did not receive the misleading postevent information for several days might have been rehearsing very different information. Left to their own devices, they could have concluded that the most important information to recall after viewing a theft is the detail that is central to the crime (e.g., a physical description of the thief, knowledge of the perpetrator's actions, items that might have been taken or handled).

Holst & Pezdek (1992) studied the scripts that individuals have for typical robberies. Their investigation suggested that people have common scripts for particular kinds of robberies and that these scripts can have an effect on the information they recall. In further support of this notion, the findings of Tollestrup, Turtle and Yuille (1994) in their archival analysis of police records of robbery and fraud, suggested that while most eyewitnesses to cases of fraud were unable to provide any description of the perpetrator (71.3%), almost all victims and witnesses to robberies were able to provide some description of the perpetrator (90.5 and 89%, respectively). The investigators stated that, unlike witnesses to robbery, most eyewitnesses to fraud are unaware that a crime is being committed and, therefore, do not attend to physical descriptions. Conversely, those who are aware of a crime being committed are very likely to have attended to these details. Thus the scripts that individuals have for crimes and everyday interactions vary, and they could have an effect on the kind of detail to which they attend and the kind of detail that they are able to recall in the future.

In the Loftus et al. investigation (1978), witnesses to a mock

auto-pedestrian accident might have memorized the license plate of the car or descriptions of events occurring at the time of the accident rather than from the time immediately preceding it, when the car was stopped at a yield/stop sign. Rehearsal of central detail could interfere with participants' recall of peripheral detail after a delay in time. Instructions that provide a different 'set' or way of interpreting the initial event could lead to different behavior with respect to recall of central and peripheral detail, either immediately or after a time delay.

The Present Study

This study investigated which details participants retained from the McCloskey and Zaragoza (1985a) slide sequence and the effects of instructions and delay of recall on retention of these details. Questionnaires and narratives that contained misinformation might have, in past research, functioned as cues to participants regarding the level of detail that would be expected by the investigator in recall. No misinformation was given in this study; however, differing instructions attempted to manipulate the level of detail to which the participants attended.

In other investigations (e.g., Belli et al., 1994), participants were not told in advance that they were going to witness a crime. This fact likely became clear more than halfway through the slide sequence. Thus participants might have been attending to a different type of detail in the first versus the last half of the event. Therefore, in the present investigation, in addition to a neutral instruction through which participants should have discovered the crime in the middle of the slide series, two other instructions were given that:

a) immediately directed participants' attention to an impending crime and

b) directed attention to unrelated details of the scene despite the impending crime.

Recall measures were taken immediately for one half of the participants, and after a delay of 48 hours for the other half of the participants. Both Fisher, Geiselman and Amador (1989) and Turtle and Yuille (1994) found that repeated recall attempts led to increased recall of details in eyewitness testimony. Therefore participants were asked to recall details of the slide sequence in three phases (the repeated-recall test), over 50 minutes. Individuals in the experiment were also asked to recall the six critical items (critical-item test), which are the usual focuses of experimental attention in this slide sequence. To increase motivation to provide as many details as possible, participants were eligible for prize draws dependent upon the number of correct details they could recall, relative to other individuals in the same experimental condition. Central and peripheral details were defined by several small groups of students. They judged independently, and then came to consensus about the details they would consider to be important to recall, if they had witnessed the crime portrayed in the slides and were expecting to have to report it to the police.

Hypotheses

1. The number of total correct details recalled was expected to decrease from the immediate-recall condition to the 48-hour delay condition.

2. The number of correct peripheral details remembered in the repeated-recall task was expected to decrease in response to the decreasing level of detail implied in the instructions. That is, the greatest number of peripheral items recalled was expected in the detail-instruction condition, with fewer in the neutral-instruction condition, and the fewest in the crime-instruction condition.

3. The number of correct central details remembered in the repeated-recall task was expected to increase in response to the decreasing level of detail implied in the instructions. That is, the fewest number of

central items recalled was expected in the detail-instruction condition, with more in the neutral-instruction condition, and the most in the crime-instruction condition.

4. An interaction was expected between the instructional variable and the time of recall, with respect to the number of correct peripheral details recalled. The 48-hour delay was expected to produce a smaller decrement in recall of peripheral items in the detail-instruction condition, because those participants would have been cued to rehearse peripheral items, whereas the participants who received the neutral and crime instructions would not have been cued.

5. Because the critical-item test appeared to be primarily composed of peripheral items, it was expected that analyses of these test scores would yield results parallel to those found for recall of peripheral items.

Method

Participants

One hundred and ninety undergraduate students were recruited from introductory psychology classes at the University of Manitoba. The data from 8 participants were not used in the final analysis, because they were unable to complete the recall session as required. Of the 182 remaining participants, 135 were females and 47 were males. The average age for females was 20.1 years (range: 16 - 66), and the average age for males was 19.9 years (range: 16 - 26). Participants were told that the study was an investigation of memory for visually-presented information. Each of the participants received course credit and a chance to participate in the lottery in exchange for their participation in the study.

Materials

A series of slides originally used by McCloskey and Zaragoza (1985a)[1] was shown to the participants. The slides depict a minor crime in which a maintenance man comes into an office to fix a chair, and

steals 20 dollars and a calculator.

The critical-item quiz was composed of one cued-recall question about each of the 6 original items used by McCloskey and Zaragoza (1985a). Questions were phrased in the following manner: "There was a can of SODA on the desk beside the keys to the drawer. What BRAND of SODA was shown in the slides?" (see Appendix A).

Design

A 3 x 2 x 2 x 2 mixed factorial design was used to interpret the repeated-recall data, with type of instruction (detail vs. neutral vs. crime), delay of recall (immediate vs. 48 hours), and gender (female vs. male) as the between-participants factors, and participants' recall of correct detail (central vs. peripheral) as the within-participants factor. The critical-item test data were analyzed with a 3 x 2 x 2 analysis of variance, with type of instruction (detail vs. neutral vs. crime), delay of recall (immediate vs. 48 hours), and gender (female vs. male) as the independent variables.

Procedure

Experimental sessions progressed through only two of the usual three phases of the eyewitness analogue. No misinformation phase was administered to participants. All experimental sessions took place in a large lecture theatre. In Phase 1, participants were given one of three brief instructions; one that suggested they were about to see a crime, but that they should pay attention to details of the office scene (detail); one that suggested they were about to see an event (neutral); and one that suggested they were about to see a crime (crime). (See Appendix B for instructions to participants.) Next, participants viewed the series of slides originally used by McCloskey and Zaragoza (1985a). The projected image of the slides measured 5 feet high by 7 feet, 6 inches wide. Participants were seated between 16 and 23 feet from the projection screen. Slides were presented at a rate of one slide every 5 seconds.

Because no misinformation was provided to participants, only one of three critical-item slides sets was used. Previously, Belli et al. (1994) found that two critical-items featured in the slide sequence, the Coke (soda) and the hammer (tool), accounted for most of the difference in correct guessing rates among participants. That is, these items were correctly guessed by participants at a much higher rate than other critical items were guessed, even when they had not seen the critical-item slides. Therefore, these two items were not included in this study. Critical-item slides were chosen from among the other alternatives on the basis of clarity of visual presentation. The critical items chosen were Folger's coffee, Winston's cigarettes, Glamour magazine, the letter 'M' on the mug, Sunkist orange soda, and the wrench.

Phase 2 was the memory phase in which participants were asked for repeated recall of the slide sequence over the course of 50 minutes (see Appendix B for instructions). Initially, they were asked to write down everything they could remember about the slide sequence. Next, they were instructed to add as many details as possible about the woman; the office, its layout, and contents; the items on the desks; the man who fixed the chair; and the events that occurred, in the order that they happened. Finally, they were prompted to add as many details as possible about color, size, shape, material or composition, position, and number. Following the repeated-recall task, participants were asked to complete the critical-item test.

All of the participants went through Phase 1 in the first experimental session. Approximately half of each instructional group began Phase 2 immediately after viewing the slides, whereas the other half returned 48 hours later for this phase. The participants were instructed not to discuss their observations with anyone after leaving the experiment.

After all identifying information was removed from the participant

records, the principle investigator scored each of the 182 repeated-recall records and critical-item quizzes (see Appendix C for scoring instructions, Appendix D for scoring criteria, and Appendix E for scoresheet). Each event was scored for presence or absence, and for whether it was mentioned in the correct order. Each object or person in the slides was scored for presence or absence. Each detail about an object or person related to color, size, shape, composition (i.e. the material from which it was made), position, and number was also scored. Other details not encompassed by these categories, but representing correct information about the object or person were also scored. Errors were noted for incorrect order of events, for incorrect events, and for incorrect details about objects or people. For example, consider the following sentence: "After smoking his Marlboro cigarette, the man in the blue plaid shirt made himself a cup of Folger's coffee and then brought the red chair with the wheels out from behind the desk." There are 2 correct events in this statement, the man smoked a cigarette and the man brought the chair from behind the desk. The 12 correct details are the cigarette; the man; the shirt, its color and pattern; the coffee and its brand; the chair, its color, location, and the fact that it had wheels; and the desk. There are three errors to be scored. The brand of cigarettes is incorrect (an incorrect detail about an object), the man did not make a cup of coffee (an incorrect event), and the man did not smoke the cigarette before he went to get the chair (incorrect order of events).

A random sample of 25% of the participant records was scored by a second individual[2], who was trained by scoring several sample repeated-recall records. A criterion of a minimum of 90% agreement was required prior to scoring actual participant records. Interobserver reliability checks were calculated using a point-by-point agreement ratio (Kazdin, 1982, pp.53-56). Disagreements were resolved by discussion and consensus.

Lottery

Because the task of writing down all of the details from the slide sequence was very arduous, a lottery of cash prizes was offered to participants to increase their motivation to do well. Individuals were informed that the number of correct details they provided would be tallied and rank-ordered. The top participant in each condition had his or her name entered into a draw 40 times (the highest number of participants in any one condition), while the second place participant had his or her name entered into the draw 39 times, etc.. Thus even the lowest-ranked participant had an opportunity to win a prize. Rank-ordering individuals within their experimental condition ensured that no one was disadvantaged by the instructions that they had received. There were 10 cash prizes ranging in value from 50 dollars down to 5 dollars. Names were drawn for large prizes first and no one participant was allowed to claim more than one prize.

Definition of Central and Peripheral Items

Following the scoring of the participant records, 23 individuals enroled in introductory psychology at the University of Manitoba were recruited to judge the importance of the details in the slide sequence; that is, which details were central and which were peripheral to the event depicted. Each of the participants received course credit in exchange for their participation in the study. Thirteen males with a mean age of 20.1 years (range: 19 - 23) and 10 females with a mean age of 22.8 years (range: 19 - 33) participated in this portion of the study.

Seven groups of 3 to 5 individuals viewed the slide sequence, while the investigator narrated events (see Appendix F for instructions to group members). Participants viewed the slides a second time, while the investigator pointed out the items that were listed on their data sheets (see Appendix G). Participants were asked to imagine that they had witnessed the crime depicted in the slides. They were required to

make an independent decision regarding the importance of rehearsing and remembering events, objects, persons and characteristics to report to the police. Following their independent decisions, they met as a group and came to consensus regarding which details were central to the crime (i.e., important to rehearse for later recall). Participants were given guidelines to reach consensus (see Appendix F), created by Hall (1971). Agreement of 5 of 7 groups (71%) was required to define an element as central. All other items were considered to be peripheral for the purposes of this study. All repeated-recall participant records were examined one final time to score the newly-defined central details as defined by group consensus.

Results and Data Analysis

After removing all information that would identify participants and the condition to which they belonged, each of the participant records was scored by the principle investigator. Interobserver reliability checks were calculated using a point-by-point agreement ratio (Kazdin, 1982, pp.53-56). Discrepancies in scoring were discussed and resolved by consensus. Agreements on the occurrence of a detail were divided by agreements plus disagreements and multiplied by 100. Interobserver agreement from the random sample was 84.8 %, prior to decisions made by consensus.

Descriptive statistics (means, standard deviations, minimum, and maximum values) for the dependent variables and for errors are shown in Table 1. Means for dependent measures (central details, peripheral details, and critical-item details) analyzed by gender, instruction and delay are presented in Tables 2, 3, and 4.

Repeated-recall Data

The first stage in the data analysis involved determining the effects of instructions, length of delay, gender, and type of detail on the number of correct details reported. The number of correct central and peripheral details from the repeated-recall data were analyzed using

Table 1

Descriptive Statistics

Measure	M	SD	Minimum	Maximum
Central Items	68.3	16.3	23	99
Peripheral Items	64.6	25.6	16	183
Critical-item Quiz	2.0	1.4	0	6
Errors	15.2	5.7	1	32

Table 2

Mean Number of Correct Central Details by Instruction Type, Time of Recall, and Gender

	Immediate	48-hours
Instruction	Female/Male	Female/Male
Detail	67.7/ 61.2	61.3/ 54.9
Neutral	73.4/ 70.9	70.0/ 64.0
Crime	74.1/ 71.1	70.3/ 70.2

Table 3

Mean Number of Correct Peripheral Details by Instruction Type, Time of Recall, and Gender

	Immediate	48-hours
Instruction	Female/Male	Female/Male
Detail	100.5/ 71.5	65.1/ 59.0
Neutral	74.3/ 56.4	58.7/ 46.7
Crime	63.7/ 55.9	52.8/ 50.5

Table 4

Mean Number of Correct Critical-Item Details by Instruction Type, Time of Recall, and Gender

	Immediate	48-hours
Instruction	Female/Male	Female/Male
Detail	2.71/ 2.73	2.14/ 2.00
Neutral	2.20/ 2.88	1.79/ 1.50
Crime	1.53/ 2.33	1.40/ 0.67

a 3 x 2 x 2 x 2 mixed factorial analysis of variance, with type of instructions (detail, neutral, crime), length of delay prior to recall (immediate, 48 hours), and gender (female, male) as the three between-participant variables, and type of detail (central, peripheral) as the within-participant variable.

Between-participant effects. Analysis of between-participant effects indicated significant effects for length of delay and gender on total recall (correct central plus correct peripheral details). Participants reported more correct items in the immediate-recall condition (M = 71.8) than in the delayed-recall condition (M = 62.1), $F(1,170) = 11.26$, $p < .001$. Females reported significantly more correct items (M = 68.1) than did males (M = 61.8), $F(1,170) = 8.15$, $p < .01$. There were no significant effects due to type of instruction, and no significant interactions were found.

Within-participant effects. Analysis of within-participant effects, collapsed across between-participant variables, indicated a significant main effect for correct central items vs. correct peripheral items. Participants reported more central items (M = 67.4) than peripheral items (M = 62.5), $F(1,170) = 6.89$, $p < .01$.

All of the two-way interactions between the within-participant variable (central/peripheral) and the between-participant variables (gender, instruction, and delay) were significant. Separate analyses of central and peripheral details were undertaken. Post hoc comparisons of the cell means were conducted using the Bonferroni t procedure (Winer, Brown, & Michels, 1991, p.158).

In the gender by within-factor analysis (Table 5), $F(1,170) = 6.06$, $p < .02$, post hoc comparisons revealed no significant differences in the number of correct central items reported by females (M = 69.4) and males (M =65.3). Females, however, reported significantly more correct peripheral items (M = 66.8) than did males (M = 58.2).

In the instruction by within-factor analysis (Table 6), $F(2,170)$ =

Table 5

Mean Number of Correct Central or Peripheral Details by Gender

Gender	Central	Peripheral
Female	69.4_a	66.8_x
Male	65.3_a	58.2_y

Note. Means within a column having a different subscript are significantly different at $p < .05$ in the Bonferroni t comparison.

Table 6

Mean Number of Correct Central or Peripheral Details by Instruction

Instruction	Central	Peripheral
Detail	62.4 $_a$	76.1 $_x$
Neutral	70.6 $_b$	62.0 $_y$
Crime	71.5 $_b$	56.3 $_y$

Note. Means within a column having a different subscript are significantly different at $p < .05$ in the Bonferroni t comparison.

26.9, $p < .001$, post hoc comparisons revealed that participants reported significantly fewer correct central items in the detail condition (M = 62.4), than in the neutral (M = 70.6) and the crime condition (M = 71.5). Participants reported significantly more correct peripheral items in the detail condition (M = 76.1) than in the neutral (M = 62.0) and the crime condition (M = 56.3).

In the delay by within-factor analysis (Table 7), $F(1,170) = 9.08$, $p < .01$, post hoc comparisons revealed no effect of the 48-hour delay on recall of correct central items (immediate recall M = 70.2; delayed recall M = 66.8), but significantly more correct peripheral items were reported in the immediate-recall condition (M = 73.4) than in the delayed-recall condition (M =57.4).

A supplementary analysis was conducted of the effect of correct peripheral detail by gender, instruction, and delay (Table 8). There was a two-way interaction between instruction and delay that just missed significance, $F(2,170) = 2.90$, $p < .06$. Post hoc analysis of a combined instruction/delay variable indicated that the participants in the detail-instruction combined with the immediate-recall condition, reported significantly more correct peripheral details than any other group, each of which did not differ significantly one from another.

Errors. Analysis of errors by gender, instruction, and delay indicated a main effect for delay, $F(1,170) = 9.32$, $p < .01$, with total errors increasing from the immediate recall (M = 13.8) to the 48-hour delay (M = 16.3).

There were no main effects for gender or instruction; however, there was a significant interaction between gender and instruction, $F(2,170) = 5.17$, $p < .01$. Post hoc comparisons using the Bonferroni t procedure indicated that no group significantly differed from any other. Examination of cell means suggested that females tended to make fewer errors in both the detail and crime-instruction conditions (M = 15.5 and 14.4, respectively) than did males (M = 16.9 and 16.0, respectively).

Table 7

Mean Number of Correct Central or Peripheral Details by Delay

Delay	Central	Peripheral
Immediate	70.2_a	73.4_x
48-hours	66.8_a	57.4_y

Note. Means within a column having a different subscript are significantly different at $p < .05$ in the Bonferroni t comparison.

Table 8

Mean Number of Correct Peripheral Details by Instruction Type and Time of Recall

Instruction	Immediate	48-hours
Detail	89.1 $_a$	63.6 $_b$
Neutral	69.2 $_b$	56.9 $_b$
Crime	61.0 $_b$	52.3 $_b$

Note. Means having a different subscript are significantly different at $p < .05$ in the Bonferroni t comparison.

Females, however, made more errors in the neutral-instruction condition (M = 15.7) than did males (M = 11.2).

A correlational analysis (Pearson Product Moment Correlation Coefficient) between type of detail (central, peripheral) and error was conducted. No significant correlation was discovered between correct central details recalled, $r(180) = -.08$, $p = .31$ or correct peripheral details recalled, $r(180) = .10$, $p = .17$ and the number of errors made.

Critical-item Test

The scores on the critical-item test (number of items correctly recalled out of 6) were analyzed using a 3 x 2 x 2 factorial design, with type of instructions (detail, neutral, crime), length of delay prior to recall (immediate, 48 hour) and gender being the independent variables. Significant main effects were found for both type of instruction and length of delay. With respect to type of instruction, $F(2,170) = 5.74$, $p < .01$, post hoc comparisons using the Bonferroni t procedure indicated that the mean number of items correctly recalled in the detail condition (M = 2.4) was significantly different from both the neutral (M = 2.0) and the crime condition (M = 1.5), whereas the neutral and crime conditions did not differ significantly from one another. With respect to length of delay, $F(1,170) = 7.95$, $p < .01$, participants scored higher in the immediate-recall condition (M = 2.3) than in the 48-hour delay condition (M =1.7). The mean scores out of six points ranged from a low of 1.26 in the crime/delay condition to a high of 2.71 in the immediate/detail condition.

A correlational analysis (Pearson Product Moment Correlation Coefficient) of the relation between scores on the critical-item test and the number of correct central and correct peripheral items recalled was computed. There was a positive correlation between the critical-item test scores and correct number of central items recalled, $r(180) = .17$, $p < .02$, as well as between the critical-item test scores and the number of correct peripheral items recalled, $r(180) = .43$, $p < .001$. The

correlation between the number of correct peripheral items recalled and the critical-item test scores was stronger than that between correct central items and critical items, $t(179) = 3.52$, $p < .001$ (McNemar, 1969, pp. 157-158).

Discussion

Effects of the Slide Stimuli

There were many responses made by participants that suggested problems caused by the slides themselves. Given the age of these stimuli, some individuals were unsure how to label certain items. For example, the electric coffee percolator was unfamiliar to many participants, who identified it as a jug, kettle, or thermos. The stop-action of the slides led some individuals to misinterpret actions, or to interpolate action between slides. Some individuals thought that when the man was attempting to pull the desk drawer open, he was trying to pull his chair up to the desk. The slide that showed him walking out the door prompted some individuals to say that he had left the door ajar; however, the door had an automatic closer. Some participants thought that he might have made himself a cup of coffee after touching the jar of coffee, although this event is not portrayed in the slides. As well, cultural differences may have contributed to errors, particularly in identifying the brand of cigarettes that the man smoked. The critical-item slide chosen for the cigarettes depicted the man smoking Winstons, a brand whose package is red and white. Most erroneous responses to queries about the cigarettes were either Marlboro (an American brand well-known because of the "Marlboro man" stereotype, also packaged in red and white), or Dumaurier (a Canadian brand packaged in a red box). Although these errors are unlikely to have had a large influence on the outcome of the study, they are worth noting. In future research, consideration should be given to the use of videotape rather than slides. Stimulus material should be screened for potential cohort or cultural differences that could affect participants' responses.

Repeated-Recall Data

In answer to the question regarding to which details participants attend in the McCloskey and Zaragoza (1985a) slide sequence, the repeated-recall data appear to indicate a tendency to encode and rehearse items that were central to the crime, rather than those that were peripheral to the crime. The detail instructional variable was successful in directing participants' attention toward peripheral items, but only in immediate recall and not after a 48-hour delay, as had been predicted. Delay of recall had less of an effect on central items than would have been expected. Specifically, longer retention intervals generally lead to worse recall performance (Loftus et al., 1978); however, no significant effect was found for delay with respect to central items.

Central details. The repeated-recall data indicated that participants were more likely overall to report correct central, rather than correct peripheral items. One plausible explanation for this is that participants were guessing more frequently and therefore generated more correct answers by chance. It is, however, unlikely that this effect could be accounted for by a higher incidence of guessing by participants because the number of errors did not correlate significantly with the number of correct central items reported.

It was expected that the increasing level of detail implied in the instructions would lead to a decreasing attention to central items from the crime to neutral to detail condition, with an attention shift toward peripheral items. The instructional variable, however, differentially affected only those participants who received the detail instruction. They reported fewer correct central items than those who received the neutral and crime instructions, who did not differ significantly with respect to the number of central items reported. Only when participants were specifically told to attend to details unrelated to the crime, did they tend to report fewer central items. Given instructions that were

neutral, they responded in much the same way as when they received instructions that alerted them to the commission of a crime. This implies that the crime instruction essentially had no differential effect on participants' behavior.

A delay of 48 hours between seeing the slides and recalling information had no significant effect on the number of correct central items recalled. This effect was unexpected, because longer retention intervals would generally be expected to lead to worse performance on tests of recall. If participants thought, however, that they would be asked for information related to the crime, rather than peripheral information (Orne, 1973), then rehearsal of central detail may have increased their ability to recall these items, offsetting the expected decline in recall performance after the delay.

The evidence suggests that central items were more salient to participants than peripheral items. Specific instructions were necessary to overcome the tendency to report them. It was reported earlier that the research of both Holst and Pezdek (1992) and Tollestrup, Turtle, and Yuille (1994) implied that people have common scripts for particular kinds of crimes, and that these scripts have an effect on their recall. The script for a break-and-enter similar to that portrayed in the slide sequence might include the notion that rehearsal of details related to a description of the perpetrator, the perpetrator's actions, and the items that were touched and/or removed would be expected. Participants in the current investigation might have had a common script for the type of crime portrayed that affected the information that they encoded at the time of viewing the slides and, therefore, the kind of information that they were able to recall.

Peripheral details. The significant effect for gender on total recall (correct central plus correct peripheral details) appears to have been caused by the tendency for females to report more correct peripheral items than did males, as there were no significant gender

differences in the number of correct central items reported by males and females. Potential reasons for this difference include a higher level of motivation to recall and record details of the scene, increased attention to detail, or better recall for detail. Casiere and Ashton (1996) found that females were more accurate than males in providing details of a videotaped event that depicted an ambiguous interaction, however, no explanation was offered to account for this difference.

It was expected that instructions would have a differential effect on recall of peripheral items, with a decreasing number of correct peripheral items reported from the detail to neutral to crime condition. As with central items, however, the instructional variable differentially affected only the detail condition, where participants reported significantly more correct peripheral items, whereas the neutral and crime instructions did not differ significantly from one another. This again implies that the crime instruction essentially had no effect on participants' behavior, and that participants have a common script for crimes that affects the kind of detail to which they attend when they are encoding information. Unless they are instructed to ignore the script, it takes precedence even when they are given neutral instructions.

It was thought that the effect of the detail instruction on recall of peripheral items would be greater with delayed recall than with immediate recall. Participants were cued to the level of detail that would be expected and it was thought that they would be more likely to rehearse these items, which would offset the effect of the time delay. Contrary to the expected result, participants reported significantly more correct peripheral items in the immediate-recall condition than in the delayed-recall condition. This effect could have been caused by differential levels of guessing, with more correct peripheral items being recalled in the immediate condition because participants were more likely to guess and thus generate more correct choices by chance. If

this were true, however, a higher error rate would also be expected in the immediate condition. In fact, the opposite was true; there were significantly more errors made in the delay condition. A trend in the data that just missed significance suggested that there was an interaction between instructions and delay. The effect of the instruction, however, was limited to the immediate/detail condition, with the number of correct peripheral items in the delay/detail condition being similar to the neutral and crime conditions. Again, it seems that participants are less inclined to recall peripheral detail. Instructions to attend to this type of information are maximally effective in an immediate-recall condition, losing their effectiveness after a delay.

Critical-item Test

It was hypothesized that the results of the critical-item test would more closely mirror the results of the peripheral details than the central details. The data supported this hypothesis. There was a significant difference between the correlation of the critical-item scores and correct peripheral items, as compared to that of the critical-item scores and correct central items, with the critical-item/peripheral relation being stronger. Although no effect was found for gender, as there was in the analysis of peripheral items, there were significant effects for both delay and instruction that paralleled those for peripheral detail. Participants in the detail-instruction condition scored significantly higher on the critical-item test than did participants in the neutral and crime-instruction conditions, just as they did for peripheral detail. Scores were significantly higher in the immediate condition than in the delayed condition, as they were for peripheral detail but not for central detail. These patterns of response suggest that the items on the critical-item test are more like peripheral items than central items. Unless they are given specific instructions to attend to details unrelated to the crime, participants

tend to score lower on this measure. The effect of instructions on correct critical items recalled, however, was not robust enough to preserve scores over a 48-hour delay.

It is important to note that even those participants who had the advantage of receiving instructions to attend to peripheral detail, and whose recall session was immediate rather than delayed, scored less than 50%, on average, on the critical-item test.

Summary

Banaji and Crowder (1989) stated that the ideal study of memory is one that is high in both experimental control and ecological validity, a condition that increases the generalizability of results. Analogue assessments are used to elicit a behavior of interest in a controlled setting, creating a result that is both consistent and replicable (Nay, 1986). The more closely the analogue parallels the real world, the more generalizable the results. The eyewitness testimony analogue continues to be refined as new research findings enable us to increase both experimental control and ecological validity. Choices, however, made by researchers regarding the behavior to be measured; the settings, times, demand characteristics, and instructional sets; and the methodology have limited, and will continue to limit, the generalizability of results (Nay, 1986).

As Orne (1973) suggested, there are often two experiments in any investigation, the one that is planned by the investigator and the one that is perceived by the participant. It appears that the use of the McCloskey and Zaragoza (1985a) slide stimuli in combination with a neutral instruction, has created a situation in which participants anticipate the need to encode and rehearse detail central to the type of crime being portrayed. The results of the critical-item quiz, however, suggest that the items on the quiz are closely related to details that are peripheral to the crime. Thus, the instructions that are usually used do not tend to elicit the behavior that is being measured. On

average, the participants in this study knew fewer than half of the correct answers for the critical-item quiz even when no misinformation was given to them. If this is true of most participants who see the slides, then we cannot say that we have changed their testimony, for in order to change it, it must first exist. What we could say about past research with this set of slides, is that we have been able to influence individuals to report misinformation related primarily to peripheral items, after they have received instructions which encourage them to attend to central items.

In order to override the scripts that participants have for crimes like the one portrayed in the slide sequence, a stronger instruction than the one used in this investigation would need to be developed. The use of instructions that elicit eyewitness testimony related to central detail in conjunction with questions that measure peripheral detail, however, is not ecologically valid. In an actual eyewitness scenario, it is certain that questions regarding central details would be asked. The choice of peripheral item questions has limited the generalizability of the results obtained with this set of stimuli to date. Although it has been demonstrated that there is a misinformation effect on the critical-item quiz for this set of stimuli, we do not know what effect misinformation would have on items that were central to the crime.

The work of Loftus (1975) with adults suggests that leading questions can influence the central details that individuals report. After seeing a film of a traffic accident and being asked several questions, including one that suggested that the vehicles had "smashed" into one another, participants were more likely to believe that they had seen broken glass in the film, although there was none. Ceci and his colleagues (Ceci, 1995) have shown that children are also susceptible to the effects of misinformation. Fifty-eight percent of preschool children who were asked to "think real hard" about whether a fictitious event had ever happened to them, and who were encouraged to visualize

both actual and fictitious events, produced false narratives. Bruck, Ceci, Francoeur, and Barr (1995) found that misleading information given to children in several interviews after long delays influenced their memory for central details of personally-experienced events. Children in the misled condition were more than twice as likely as those in a control condition to report that a research assistant had engaged in activities with them that had been performed by a pediatrician, or vice versa. These studies suggest that the misinformation effect does indeed exist. To investigate the effect of misinformation on central items in the McCloskey and Zaragoza (1985a) slides, it will be necessary to develop a new set of questions. These new questions would be more ecologically valid, paralleling those that would be asked in an actual eyewitness situation.

If Wells and Leippe (1981) are correct, we need to know about eyewitness testimony for central, not peripheral detail. First, because those who attend to central detail make the best eyewitnesses, and second, because that is the nature of eyewitness testimony in the real world. To increase the generalizability of our investigations of eyewitness testimony, we must choose a target behavior that is ecologically valid. In so doing, we will increase the ecological validity of the experimental analogue for eyewitness testimony, generating results that are increasingly applicable beyond the doors of the laboratory.

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Footnotes

[1]I would like to thank Dr. S. Holborn for providing me with a McCloskey and Zaragoza slide set. Only 78 of the usual 79 slides from the set were available, as the first slide in the series had inadvertently been lost in a photo laboratory accident.

[2]I would also like to acknowledge the contribution of Ms. Susan Grant, B.A., who spent many hours scoring participant records.

Appendix A

Critical-item Quiz

STUDENT NUMBER:_____

QUIZ

Answer the following questions according to what you viewed in the slides. If you cannot provide an exact answer, write down as much detail as you remember about the item.

1. There was a can of **SODA** on the desk beside the keys to the drawer. What **BRAND** of **SODA** was shown in the slides?

2. The man had a package of CIGARETTES. What **BRAND** of **CIGARETTES** was shown in the slides?

3. There was a small jar of **COFFEE** beside the coffee pot on the file cabinet near the door. What **BRAND** of **COFFEE** was shown in the slides?

4. The man lifted a **TOOL** from his toolbox before he put the calculator into it. What **KIND** of **TOOL** was shown in the slides?

5. There was a **MAGAZINE** beside the ashtray on the end table near the door. What was the **NAME** of the **MAGAZINE** shown in the slides?

6. The letter opener was in a white **MUG** that had a letter on it. What **LETTER** was on the **MUG** shown in the slides?

Appendix B

Instructions to Participants: Phase 1

1. Welcome participants to the study. Deliver the appropriate written instructions to individuals, based upon the condition to which they are assigned:

   Detail: Although the slide sequence you are about to see depicts a crime, please watch carefully for small details of the office scene (e.g. furnishings, objects on furniture) that may be completely unrelated to the crime itself. You will be asked questions about these details later.

   Neutral: The slide sequence you are about to see depicts an event. Please watch carefully as you will be asked questions about this event later.

   Crime: The slide sequence you are about to see depicts a crime. Please watch carefully as you will be asked questions about this crime later.

   Show the slide sequence to participants.

2. If participants have been assigned to the 48-hour delay condition, thank them for their participation and remind them of the date and time of the recall session. For participants who have been assigned to the immediate-recall condition, proceed immediately with Phase 2.

Instructions to Participants: Phase 2

1. Pass out a booklet to each participant. Ask participants to record their student number, a telephone contact number (to notify lottery winners of their prizes), their age, and gender on the front of the booklet they were given. Then give the following directions to participants by putting the transparency on the overhead and reading it to them:

   a) Write down in as much detail as possible everything you remember about the slide sequence. Your comments can be in

point form. Please be sure to double-space your answers. Please write legibly. You have 20 minutes. If you finish before the time is up, please review your answers and try to add more details.

b) Now draw a line under the last thing you wrote. Add as many details as possible about i) the woman, ii) the office its layout and contents, iii) the items on the desks, iv) the man who fixed the chair, and v) the events that occurred, in the order that they happened. Do not rewrite details you have already reported, only add details you have not yet written. You have 20 minutes. If you finish early, review your answers.

c) Draw a line under what you have written. Now go back and add to your answers as many more details as you can remember about i) colors, ii) size, iii) shape, iv) material or composition (what it is made of), v) position and vi) number. Write these answers between the lines, indicating with arrows to what detail they refer. You have 10 minutes. If you finish early, review your answers and try to add to them.

d) Please fill out the answers for the one page quiz that is being passed out. If you do not know the exact information that is being requested, give any details about the item that you can remember. You will have 5 minutes. Write your student number on the top of the page. Do not make any other identifying marks.

Appendix C

Scoring Instructions

1. For each correct event mentioned, check the "yes" column beside the appropriate statement. Incorrect events (those that did not happen) should be recorded on the bottom of the score sheet. If an event is correct but is mentioned in the wrong order (i.e. to record it you must go back in the listing of events that have been checked), mark an "X" in the column headed "Wrong Order". Subsequent events mentioned are not counted as being out of order unless you must go back again in the event list. For example, the statement "The man went to get the chair. He set his toolbox down on the cabinet by the door and moved the coffee pot back," contains three correct events. After scoring "Man walks to get chair", you must go back in the listing of events to check "Man sets down toolbox". This is scored as a correct event, but as an error for order. "Man moves coffee pot" also occurs before "Man walks to get chair" in the event list, but since you are again moving forward in the list, score it as a correct event, without scoring a second error for order.
2. If an event is implied, score only the events that the participant actually mentioned. "He put the chair back behind the desk," may imply that he picked it up and walked across the room with it, but the only correct event scored for this statement is "Man puts chair by desk".
3. For each object mentioned, check the "Yes" column to indicate its presence. Then check all the details mentioned about the object with respect to color, size, shape, composition, position or number. Be sure to note any other details about the object that are correct, but are not listed on the form. List any errors in the error column. The statement "The red chair from behind the desk closest to the door had a cloth back and seat and five silver

wheels on legs that were shaped in a star-pattern," contains correct mention of deskfar, the chair, its position (behind the desk), color (red), composition (cloth), number (five), shape (star-pattern), as well as an extra detail (wheels). An error is written into the error column for the color of the wheels which are black not silver. No credit is given for the mention of legs since this is an obvious detail; virtually all chairs have legs. Check all details mentioned about persons, his/her characteristics, clothing and belongings. Write in any details not mentioned on the scoring sheet that are correct. Note any errors in the error column.

4. Obvious items that are mentioned in a general sense are not given credit, nor are they recorded as errors. The statement "There were many papers and books in the office," is given no credit, as anyone who hadn't seen the slides, but knew the event took place in an office could have guessed these details. As well, items that cannot be verified are scored neither as correct nor as errors. For example, whether the yellow magazine rack on the wall is made of plastic, wood or some other material is unknown and, therefore, cannot be scored.

5. If participants have drawn a map of the office, make sure that you note correct details like location and shape that are pictured but may not be mentioned verbally.

6. Note that participants may sometimes get an event or detail about an object correct, but include an incorrect detail with it. For example, "The man took a red and white container of glue out of his toolbox." This is scored as a correct event since the man did remove a container from his toolbox. The oil has been misidentified as glue, but the participant has correctly noted the location from which the container came and its color. Therefore, "glue" is scored as an error, while location and color are scored as correct under the listing for the oil.

7. Transfer the answers on the critical-item quiz to the front sheet of the scoring sheet and total the points. Use the scoring transparency to count the number of correct central details and record this number on the front sheet.
8. Find the totals for events, details, and errors on each page of the scoresheet. Add the page totals to find the number of correct events and details, and the number of incorrect order, events and details for the entire record.
9. Add the totals for correct events and details to find the Total Correct. Subtract the total for correct central items from the Total Correct to find the total for correct peripheral items. Add the totals for incorrect order, events and details to find the Total Incorrect.

Appendix D

Scoring Criteria

DESK (FAR)

BOOK: on dropped part of desk, between high part and typewriter.

CALENDAR: white, black lettering, date = 27th.

CHAIR: pedestal-type, 5 feet with black rollers, silver/chrome legs in star- shaped pattern, red seat and back made of cloth or fabric, black underside to seat and back, 2 stickers (white and yellow).

COMPUTER: grey/white/beige, in middle of high part of desk, monitor off, Apple floppy-disk drive (white and black) on right side of monitor.

CUP-AN: white/cream/beige, feline/cat/lion cub decoration.

CUP-M: black letter M, cream/white/beige, pencils and pens inside, left side of computer.

DESK: black, chrome/silver legs, L-shaped, woodgrain top, drawers on right side of raised part.

DISK/CARD FILE: right-hand side of raised part of desk, black with smoke/grey cover, plastic.

INTERCOM: right side of raised part of desk by back wall, brown, woodgrain, 6 buttons, piece of paper on top.

LYSOL SPRAY: from camera's perspective: left of typewriter on dropped side of desk, turquoise/green/blue, gold/yellow, white, is moved/turned partway through the slide sequence.

PAPERCLIP DISPENSER: on top of intercom, plastic, black and clear.

PAPER HOLDER: grey, metal, inverted v-shape.

PEN: white, beside typewriter.

TAPE DISPENSER: right hand side of raised part of desk, black.

TELEPHONE: black, rotary dial, 6 buttons (one red on left, 5 clear plastic on bottom right, on top of intercom by wall at back.

TRAY (IN/OUT): 5 trays/compartments, grey/black, 5 white labels on left side, rectangular, left hand side of raised part of desk.

TYPEWRITER: electric, blue, IBM, on dropped level of desk.

DESK (CLOSE)

BOOK: white, black lettering, left side of typewriter.

CHAIR: green vinyl cover, behind desk close.

CALCULATOR: black with grey, white, blue and red keys.

CONTAINER: pink, between camera and intercom on desk.

DESK: L-shape, white top, dark bottom, locked drawer in middle of front as you sit at desk, drawers down right side, has dropped side for typewriter.

GLUE: Elmer's white glue-all, orange spout, white bottle, orange and blue label, beside paper holder on front left corner of raised part of desk.

INTERCOM: brown, woodgrain, buttons on right side.

KEYS: on brown/burgundy/red key fob/chain made of vinyl/leather, on left side of raised part of desk.

KLEENEX: left side of tray, white with gold/yellow floral pattern.

MESSAGE PAD: pink, between typewriter and intercom.

PAPERCLIP DISPENSER: black top, blue label, beside book on left of high part of desk, plastic.

PAPER HOLDER: black, metal, left side of high part of desk, inverted V-shape, papers sitting on it.

PENCIL: yellow/orange, right side of Rollodex.

PICTURE FRAME: 2-sided, gold/brass, African American child's picture on right side of frame, white outfit, red bow or tie.

ROLLODEX: white cards, black and brown, to the right of tray.

SODA: Sunkist orange, between Kleenex and picture frame, orange, blue.

STAPLER: blue label, black and silver, beside book on raised part of desk.

TAPE DISPENSER: black, near book on raised part of desk.

TELEPHONE: black, rotary dial, buttons on bottom, on right-hand side of dropped part of desk.

TRAY (IN/OUT): grey/black, four trays, white label on left side, on right front corner of high part of desk (if you were sitting at desk), green paper in top tray, air mail envelope in bottom tray, yellow paper in middle trays.

TYPEWRITER: white, electric, blue label on back, on dropped side of desk.

OTHER: FURNISHINGS/OBJECTS

ASHTRAY: white, round, bowl/dish-type, ceramic/porcelain/stoneware, design on edge, on front right edge of low table between chairs near door, several cigarette butts in it.

BOOK: in Hochschild's bag, paperback, white with red and blue writing, Sidney Sheldon's Bloodline, yellow sides to pages, man and woman on cover.

BULLETIN BOARD 1: in hall outside door, orange signs (wed, thurs, fri), several pieces of paper.
2: on floor by back wall, black frame, brown centre, one sheet 8 1/2" x 11" white paper on top left (phone list).
3: on wall to right of desk close, 4 sheets paper across top, 2 on bottom, one hanging off bottom corner, one sheet is green, tacks have plastic heads (yellow, red, blue, white).

CABINET: to left of entrance door, yellow/tan/brown/cream, 3 drawers, silver/chrome pulls.

CARDBOARD: between file cabinet and back wall, red lettering (handle with care), brown cardboard.

CARPET: brown/dark, level loop.

CHAIRS1: two to left of entrance, wooden arms, gold/green/yellow, cloth seats and back, table between the two chairs.
2: one between two desks, green, upholstered.

COFFEE: glass jar, gold lid, gold and red/orange label with white writing, Folger's, on small cabinet to left of entrance.

COFFEE POT: electric, percolator, gold/yellow, metal, on cabinet to left of entrance, black or brown cord, snowflake or star pattern.

DOOR1: on left of scene, entrance to office, brown, wood, silver knob on left side, narrow window on left side with wire grid in glass, 3 hinges, copper or brown closer at top right, plaque on outside.
2: on right of scene, brown, wooden, silver knob, no window.

DOOR STOP1: silver, round stop for knob on wall at back by entrance.
2: wooden, wedge-shape, by back wall on floor, under knob-stop.

ENVELOPE: in Hochschild's bag, white, legal-size, return address in upper left.

FILE CABINETS: two in back right corner; one black (closest to camera); one brown/black (against back wall); 5 drawers or compartments; stack of filing cards on one nearest wall; 6 small grey file card drawers on top of one nearest wall with 2 more file card drawers on top of the 6; wire basket on top of closest cabinet; 2 red, 3 white, 1 cream, 1 grey books or binders on top of closest cabinet.

OTHER (CONTINUED)

LIGHT SWITCH COVER: metal, chrome/silver, left of entrance, 2 electrical plugs on left (brown/black), 1 switch on right.

MAGAZINES: several stacked on back right of small table between two chairs to left of entrance, top magazine is Glamour, yellow/gold print.

MAGAZINE RACK: between two chairs, above table to left of entrance, yellow, 9 slots, Seton magazine, blue magazine, one other magazine

MONEY: 2 American $10 bills in legal-sized envelope in Hochschild's bag, green and white, paper.

NOTICE: 8 1/2" x 11", white paper, blue writing, taped to wall above cabinet by entrance.

RACQUET: in Hochschild's shopping bag, in Wilson T2000 case, brown handle, white case with red trim and black lettering.

SHELF: above bulletin board 3, on right side of room, white adjustable brackets, wooden shelf, several white and blue books, 1 dictionary.

SHOPPING BAG: large, white, paper bag with black lettering, Hochschild's, white string handles.

SWEATER: accept towel/shirt, in Hochschild's bag, blue/grey.

TABLE: between two chairs to left of entrance door, chrome/silver legs, glass top, square.

THERMOSTAT: above cabinet by entrance, tan/gold/brown with black knob.

WALLS: white/light/cream, brown trim.

WASTEBASKET: between desk far and file cabinets in back right corner, brown/yellow, round, brown/yellow liner.

MAN

APPEARANCE: maintenance or repair man; Caucasian; approximately 6 ft. tall (5'9" to 6'3"); slim build; right-handed; slouching posture; dark eyes; hair: dark/brown/black, curly, short/medium length; black/dark, heavy-rimmed glasses; needing a shave; no rings or other jewelry.

CLOTHING: shirt, flannel, plaid/checked, grey/blue (accept earthtones due to poor color rendition in some slides), long sleeves unbuttoned, front not buttoned, not tucked in.

T-shirt, white, tucked in, worn under long sleeve shirt.

blue jeans, tear in left leg just above knee, worn, baggy, 4 pockets, black/brown belt.

no socks.

shoes, low top runners, black uppers, white soles, white laces.

BELONGINGS: toolbox, metal, silver/grey, dented, worn, black scuff marks, clasp on side, handle on top, small.

cigarettes, Winston, American brand, red on top and bottom, white middle, red lettering, left front shirt pocket, small package.

red pocket knife, small, in right, front pocket of jeans.

Hubba Bubba gum, pink package, in right, front pocket of jeans.

Anacin container, yellow, tin, in right, front pocket of jeans.

crescent wrench, metal, silver/grey, in toolbox.

oil, 3-in-1 brand, red and white container, black lettering, in toolbox.

matches.

rag, yellow/orange/gold, in toolbox.

WOMAN

APPEARANCE: secretary/office worker/desk far belongs to her; Caucasian/Asian; dark hair, some curl, shoulder/medium/long length; slim; short (5'0" - 5'6").

CLOTHING: skirt, purple/pink, tie at waist, just below knee length.

blouse/shirt/top, elbow-length sleeve, white with multicolored polka-dot pattern.

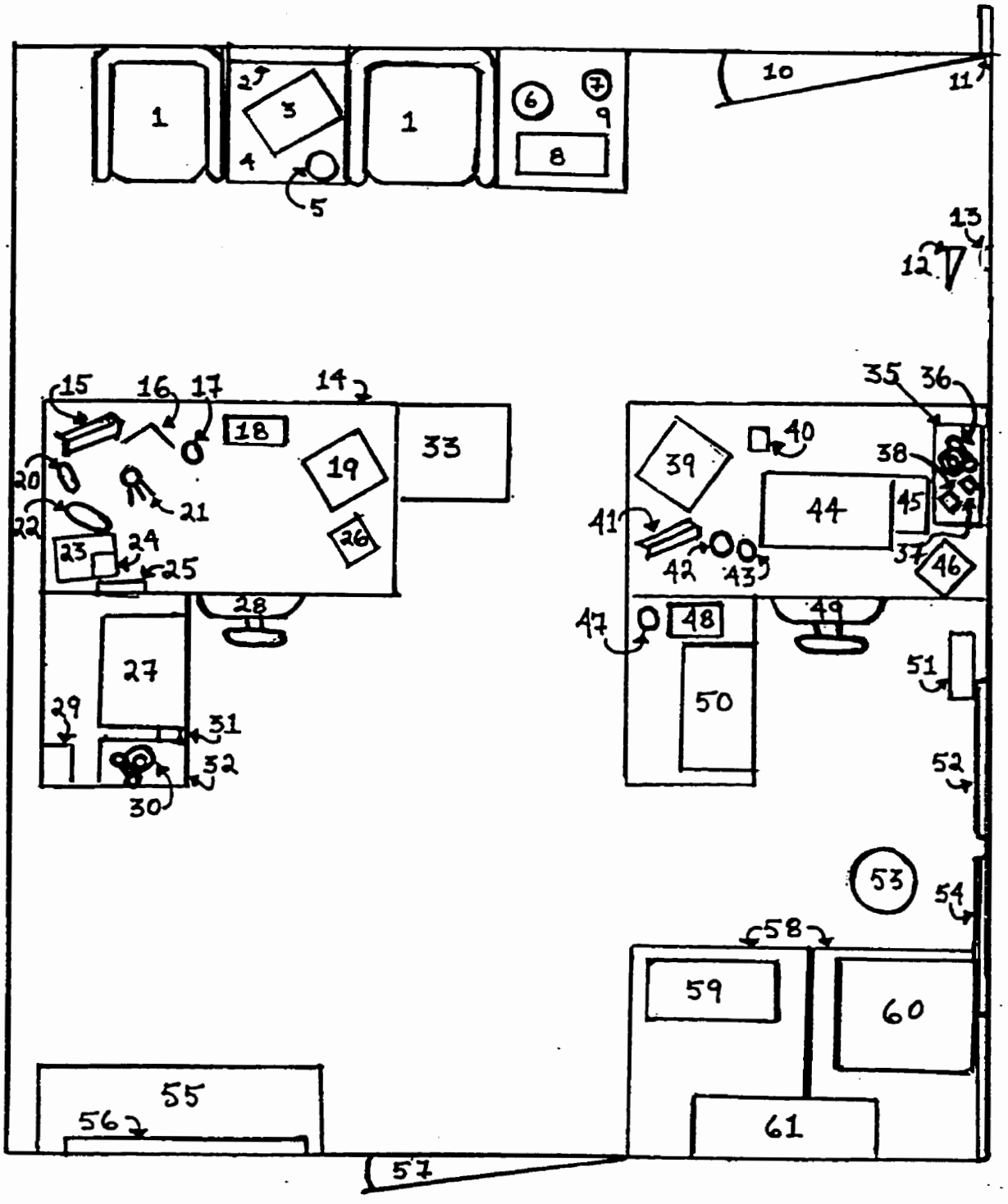
shoes, white with crossed strap at open heel.

umbrella, collapsible, turquoise/blue.

purse, brown/burgundy, over left shoulder, 2 thin over-shoulder straps.

watch on left wrist; thin, dark band.

Room Diagram



Room Diagram Key.

1. Chairs 1
2. Magazine rack
3. Magazines
4. Table
5. Ashtray
6. Coffee pot
7. Coffee
8. Tool box
9. Cabinet
10. Door 1
11. Bulletin board 1
12. Door stop 2
13. Door stop 1
14. Deskclose
15. Paper holder
16. Picture frame
17. Soda can
18. Kleenex box
19. In/out tray
20. Glue bottle
21. Keys
22. Tape dispenser
23. Book
24. Paperclip dispenser
25. Stapler
26. Rollodex
27. Typewriter
28. Chair
29. Container
30. Telephone
31. Message pad
32. Intercom
33. Chair 2
34. Deskfar
35. Intercom
36. Telephone
37. Paperclip dispenser
38. Paper
39. In/out tray
40. Calendar
41. Paper holder
42. Cup-M
43. Cup-animal
44. Computer
45. Disk drive
46. Disk/card file
47. Lysol
48. Book
49. Chair
50. Typewriter
51. Shopping bag
52. Bulletin board 2
53. Wastepaper basket
54. Cardboard
55. Shelf
56. Bulletin board 3
57. Door 2
58. File cabinets
59. Wire basket
60. Small file drawers
61. Books/binders

Appendix E

Scoring Sheet

PARTICIPANT:_____ CONDITION:_____

AGE:_____ GENDER:_____

CRITICAL-ITEM QUIZ	PTS.	SCORING	PTS.
1.		CORRECT EVENTS	
2.		CORRECT DETAILS	
3.		CORRECT CENTRAL	
4.		CORRECT PERIPHERAL	
5.		INCORRECT ORDER	
6.		INCORRECT EVENT	
TOTAL QUIZ POINTS		INCORRECT DETAIL	

TOTAL CORRECT (EVENTS + DETAILS)	PTS.
TOTAL ERRORS (ORDER + EVENT + DETAIL)	

PARTICIPANT:_____ CONDITION:_____

AGE:_____ GENDER:_____

EVENT	YES	WRONG ORDER
WOMAN STANDING BY FAR DESK		
MAN ENTERS		
WOMAN WALKS TO MEET		
WOMAN SHOWS CHAIR		
WOMAN LEAVES		
MAN CROSSES TO CABINET		
MAN SETS DOWN TOOL BOX		
MAN MOVES COFFEE POT		
MAN OPENS TOOL BOX		
MAN WALKS TO GET CHAIR		
MAN PICKS UP CHAIR		
MAN TAKES CHAIR BACK NEAR CABINET		
MAN SETS CHAIR UPSIDE DOWN		
MAN EXAMINES MECHANISM		
MAN TAKES OUT OIL		
MAN OILS CHAIR		
TOTAL		

* shaded events occur approximately simultaneously.

INCORRECT EVENTS PAGE 1	X
TOTAL EVENT ERRORS	

PARTICIPANT: _____ CONDITION: _____

AGE: _____ GENDER _____

EVENT	YES	WRONG ORDER
MAN WAITS		
MAN REMOVES CIGARETTES FROM SHIRT POCKET		
MAN TAKES OUT ONE CIGARETTE		
MAN LIGHTS CIGARETTE WITH MATCH AND SMOKES		
MAN OILS CHAIR AGAIN		
MAN TAKES OUT CLOTH TO WIPE CHAIR		
MAN LEAVES OIL AND RAG BESIDE DESK		
MAN PUTS OUT CIGARETTE IN ASHTRAY		
MAN PICKS UP CHAIR		
MAN WALKS ACROSS ROOM WITH CHAIR		
MAN PUTS CHAIR BY DESK		
MAN SEES SHOPPING BAG		
MAN LOOKS INTO SHOPPING BAG		
MAN REMOVES SWEATER AND PUTS ON DESK		
MAN REMOVES BOOK AND PUTS ON DESK		
MAN REMOVES TENNIS RACQUET AND PUTS ON DESK		
TOTAL		

* shaded events occur approximately simultaneously.

INCORRECT EVENTS PAGE 2	X
TOTAL EVENT ERRORS	

PARTICIPANT:_____ CONDITION:_____

AGE:_____ GENDER_____

EVENT	YES	WRONG ORDER
MAN REMOVES ENVELOPE AND HOLDS UP		
MAN GETS LETTER OPENER		
MAN OPENS ENVELOPE		
MAN REMOVES MONEY		
MAN PUTS ITEMS BACK INTO BAG		
MAN CROSSES TO NEAR DESK		
MAN SITS DOWN IN CHAIR		
MAN TRIES TO OPEN DRAWER		
MAN REMOVES ITEMS FROM POCKET		
MAN SETS ITEMS ON DESK		
MAN RETURNS ALL ITEMS BUT KNIFE TO POCKET		
MAN OPENS KNIFE		
MAN ATTEMPTS TO OPEN DRAWER WITH KNIFE		
MAN SEES KEYS		
MAN REACHES FOR KEYS		
MAN OPENS DRAWER WITH KEY		
TOTAL		

* shaded events occur approximately simultaneously.

INCORRECT EVENTS PAGE 3	X
TOTAL EVENT ERRORS	

PARTICIPANT: _____ CONDITION: _____

AGE: _____ GENDER _____

EVENT	YES	WRONG ORDER
MAN REMOVES CALCULATOR		
MAN CLOSES DRAWER		
MAN GETS UP		
MAN PUTS KEYS BACK ON DESK		
MAN WALKS BACK TOWARD DOOR		
MAN LIFTS CRESCENT WRENCH OUT OF TOOL BOX		
MAN PUTS CALCULATOR INTO TOOL BOX		
MAN LOOKS BACK AND SEES RAG AND OIL		
MAN BENDS DOWN AND PICKS ITEMS UP		
MAN PUTS IN TOOL BOX		
MAN CLOSES TOOL BOX		
MAN LOOKS OUT OF THE DOOR WINDOW		
MAN PICKS UP TOOL BOX		
MAN OPENS DOOR AND LOOKS OUT		
MAN WALKS OUT		
DOOR CLOSES BEHIND MAN		
TOTAL		

* shaded events occur approximately simultaneously.

INCORRECT EVENTS PAGE 4	X
TOTAL EVENT ERRORS	

PARTICIPANT: _____ CONDITION: _____

AGE: _____ GENDER: _____

ITEM	YES	COLOR		SIZE		SHP.		COMP		PSTN		NO.		OTHER		ERROR	NO.
DESKFAR																	
BOOK																	
CALEND																	
CHAIR																	
COMPUTR																	
CUP-AN																	
CUP-M																	
DISKFIL																	
INTERCO																	
LTROPNR																	
LYSOL																	
PAPCLIP																	
PAPHOLD																	
PEN																	
TAPEDIS																	
TELEPHO																	
TRAY																	
TYPEWRI																	
TOTAL																ERROR	

TOTAL CORRECT DETAILS PAGE 5: ____

PARTICIPANT:_____ CONDITION:_____

AGE:_____ GENDER:_____

ITEM	YES	COLOR		SIZE		SHP.		COMP		PSTN		NO.		OTHER		ERROR	NO.
DESKCLO																	
BOOK																	
CHAIR																	
CALCULA																	
CONTAIN																	
GLUE																	
INTERCO																	
KEYS																	
KLEENX																	
MESSAGE																	
PAPCLIP																	
PAPHOLD																	
PENCIL																	
PICTFRA																	
ROLLODX																	
SODA																	
STAPLER																	
TAPEDIS																	
TELEPHO																	
TRAY																	
TYPWRI																	
TOTAL																ERROR	

TOTAL CORRECT DETAILS PAGE 6: ____

PARTICIPANT:_____ CONDITION:_____

AGE:_____ GENDER:_____

NAME	YES	COLOR		SIZE		SHP.		COMP		PSTN		NO.		OTHER		ERROR	NO.
OTHER	X	X		X		X		X		X		X		X		X	X
ASHTRAY																	
BOOK																	
BULETN1																	
BULETN2																	
BULETN3																	
CABINET																	
CARDBRD																	
CARPET																	
CHAIRS1																	
CHAIR2																	
COFFEE																	
COFFEPT																	
DOOR1																	
DOOR2																	
DORSTP1																	
DORSTP2																	
ENVELOP																	
TOTAL																ERROR	

TOTAL CORRECT DETAILS PAGE 7: ____

PARTICIPANT:_____ CONDITION:_____

AGE:_____ GENDER:_____

NAME	YES	COLOR		SIZE		SHP.		COMP		PSTN		NO.		OTHER		ERROR	NO.
OTHER																	
FILCAB1																	
FILCAB2																	
LTSWCH																	
MAGAZIN																	
MAGRAK																	
MONEY																	
NOTICE																	
RACQUET																	
SHELF																	
SHOPBG																	
SWEATR																	
TABLE																	
THRMST																	
WALLS																	
WSTBSK																	
TOTAL																ERROR	

TOTAL CORRECT DETAILS PAGE 8: ____

PARTICIPANT:_____ CONDITION:_____

AGE:_____ GENDER_____

CHARACTERISTIC	YES	CHARACTERISTIC	YES	ERROR	#
MAN		TOOL BOX			
MAINTENANCE		-METAL			
CAUCASIAN		-COLOR			
HEIGHT		-DENTED, WORN			
BUILD		-SCUFF MARKS			
HANDEDNESS		-CLASP			
POSTURE		-HANDLE			
HAIR - COLOR		CIGARETTES			
-LENGTH		-BRAND NAME			
-CURL		-AMERICAN			
GLASSES		-COLOR PKG			
-HEAVY RIMMED		-COLOR PRINT			
-BLACK		-LOCATION			
NEEDING SHAVE		POCKET KNIFE			
NO JEWELLERY		-SIZE			
SHIRT		-COLOR			
-PLAID		-LOCATION			
-COLOR		GUM			
-LONG SLEEVE		-COLOR			
-UNBUTTONED		-BRAND			
-UNTUCKED		-LOCATION			
T-SHIRT		ANACIN			
-COLOR		-COLOR			
JEANS		-LOCATION			
-COLOR		WRENCH			
-WORN		-CRESCENT			
-BAGGY		-METAL			
-TEAR		-COLOR			
-4 POCKETS		-LOCATION			
BELT		OIL			
-COLOR		-BRAND			
NO SOCKS		-COLOR			
SHOES/RUNNERS		-LOCATION			
-LOW TOP		MATCHES			
-BLK UPPERS		RAG			
-WHT SOLES		-COLOR			
-WHT LACES		-LOCATION			
TOTALS				ERROR	

TOTAL CORRECT DETAILS PAGE 9: ___

PARTICIPANT: _____ CONDITION: _____

AGE: _____ GENDER: _____

CHARACTERISTIC	YES	CHARACTERISTIC	YES	ERRORS	#
WOMAN		SHOES	XXX		
SECRETARY		-COLOR			
CAUCASIAN/ASIAN		-STRAP HEEL			
HAIR-COLOR		UMBRELLA			
-LENGTH		-COLOR			
-CURL		-COLLAPSIBLE			
BUILD		PURSE			
HEIGHT		-COLOR			
SKIRT		-LOCATION			
-COLOR		-#STRAPS			
-TIE		-STRAPS-THIN			
-LENGTH		-STRAPS-SHLDR			
BLOUSE		WATCH			
-COLOR		-LOCATION			
-SLEEVE		-BAND-COLOR			
-PATTERN		-BAND-THIN			
-PATTERNCLR					
TOTAL				ERROR	

TOTAL CORRECT DETAILS PAGE 10: ___

Appendix F

Instructions for Group Consensus

1. Welcome the participants. Explain that this study is an investigation of eyewitness testimony. They will view a set of slides that depicts a minor crime. Tell them that they will be asked to make 2 sets of decisions:
   a) individual decisions about the important events/objects in the slides, and
   b) group consensus decisions about the same set of items.
2. Show the slides to the participants. Narrate using the list of events as a guide while you go through the slide sequence.
3. Show the slides to the participants a second time. Mention each object that will be listed on their handouts, pointing out where in the slide it is located.
4. Hand out sheets and ask participants to fill in their gender and age. Tell them they are to imagine that they have just witnessed the crime that was depicted in the slides and that they expect to be interviewed by the police within the next 2 days. Tell them they are to judge which details (events and objects) are important to rehearse and remember to tell to the police. Emphasize that no detail should be judged as unimportant on the basis of another that was judged to be important. Each event or detail should be considered in a separate decision. Emphasize that there are no right or wrong answers. Read through the list of events one by one. Give participants a few minutes to consider their decisions, then read through the list of objects.

5. Randomly assign participants to one of 2 groups for the group consensus exercise. Read "Instructions to the Group" to the participants. Separate the groups into 2 rooms. Remain available

to answer any questions that may arise. Be sure to make reference to the instruction sheet when answering questions. Ask participants not to change any of the decisions that they made on their individual sheets, recording the group consensus on a separate sheet.

6. When the group is finished, ask if all members are satisfied with their consensus. Ask them to be sure that they have filled in their gender and age on their individual sheets. Collect the group and individual sheets.
7. Thank the participants for taking part. Inform them that information regarding the results of the study will be posted on the bulletin board in Duff Roblin Building.

Group Consensus: Instruction Sheet

Imagine that you have just witnessed the crime that was depicted in the slide sequence. You expect that the police will interview you within the next 2 days. Decide, with the other members of the group, which details regarding events and objects are important to remember and rehearse.

Keep the following guidelines in mind as you work toward a group consensus:

1. Avoid **arguing** your own position. Present your position as clearly as possible, but consider other group members' positions carefully.

2. When negotiations appear to be at a stalemate, do not assume that there must be a winner and a loser. You may wish to leave the item for a time and return to it later.

3. Don't give in to other views unless they are logical and objective. Don't change your mind just for the sake of avoiding conflict.

4. Avoid coin tosses, majority votes and bargaining when deciding on items. If a group member changes his/her mind about an item, don't assume that you must then give in on another item for their sake.

5. Differences of opinion are expected. They help the group to consider a wider range of information. Try to involve every group member in the discussion.

6. Each item (event or object) is to be considered alone, as if it is the only piece of information that will be remembered. Do not discard an item as unimportant on the basis of another item that has already been included as important.

*The guidelines listed above are patterned after guidelines listed in:
Hall, J. (1971, November). Decisions, decisions, decisions. Psychology Today, 5, 51-54, 86-88.

Appendix G

Group Consensus Data Sheets

AGE: _____

GENDER: _____

EVENT	NB
WOMAN STANDING BY FAR DESK	
MAN ENTERS	
WOMAN WALKS TO MEET	
WOMAN SHOWS CHAIR	
WOMAN LEAVES	
MAN CROSSES TO CABINET	
MAN SETS DOWN TOOL BOX	
MAN MOVES COFFEE POT	
MAN OPENS TOOL BOX	
MAN WALKS TO GET CHAIR	
MAN PICKS UP CHAIR	
MAN TAKES CHAIR BACK NEAR CABINET	
MAN SETS CHAIR UPSIDE DOWN	
MAN EXAMINES MECHANISM	
MAN TAKES OUT OIL	
MAN OILS CHAIR	
MAN WAITS	
MAN REMOVES CIGARETTES FROM SHIRT POCKET	
MAN TAKES OUT ONE CIGARETTE	
MAN LIGHTS CIGARETTE WITH MATCH AND SMOKES	
MAN OILS CHAIR AGAIN	
MAN TAKES OUT CLOTH TO WIPE CHAIR	
LEAVES OIL AND RAG BESIDE DESK	
MAN PUTS OUT CIGARETTE IN ASHTRAY	
MAN PICKS UP CHAIR	
MAN WALKS ACROSS ROOM WITH CHAIR	
MAN PUTS CHAIR BY DESK	
MAN SEES SHOPPING BAG	
MAN LOOKS INTO SHOPPING BAG	
MAN REMOVES SWEATER AND PUTS ON DESK	
MAN REMOVES BOOK AND PUTS ON DESK	

EVENT	NB
MAN REMOVES TENNIS RACQUET AND PUTS ON DESK	
MAN REMOVES ENVELOPE AND HOLDS UP	
MAN GETS LETTER OPENER	
MAN OPENS ENVELOPE	
MAN REMOVES MONEY	
MAN PUTS ITEMS BACK INTO BAG	
MAN CROSSES TO NEAR DESK	
MAN SITS DOWN IN CHAIR	
MAN TRIES TO OPEN DRAWER	
MAN RFMOVES ITEMS FROM POCKET	
MAN SETS ITEMS ON DESK	
MAN RETURNS ALL ITEMS BUT KNIFE TO POCKET	
MAN OPENS KNIFE	
MAN ATTEMPTS TO OPEN DRAWER WITH KNIFE	
MAN SEES KEYS	
MAN REACHES FOR KEYS	
MAN OPENS DRAWER WITH KEY	
MAN REMOVES CALCULATOR	
MAN CLOSES DESK DRAWER	
MAN GETS UP	
MAN PUTS KEYS BACK ON DESK	
MAN WALKS BACK TOWARD DOOR	
MAN LIFTS CRESCENT WRENCH OUT OF TOOL BOX	
MAN PUTS CALCULATOR INTO TOOL BOX	
MAN LOOKS BACK AND SEES RAG AND OIL	
MAN BENDS DOWN AND PICKS ITEMS UP	
MAN PUTS IN TOOL BOX	
MAN CLOSES TOOL BOX	
MAN LOOKS OUT OF THE DOOR WINDOW	
MAN PICKS UP TOOL BOX	
MAN OPENS DOOR AND LOOKS OUT	
MAN WALKS OUT	
DOOR CLOSES BEHIND MAN	

ITEM	NB	ITEM	NB
DESK - CLOSEST		DESK FAR SIDE OF ROOM	
BOOK		BOOK	
CHAIR		CALENDAR	
CALCULATOR		CHAIR	
CONTAINER		COMPUTER	
GLUE		CUP WITH M	
INTERCOM		CUP WITH ANIMAL	
KEYS		DISKETTE FILE	
KLEENEX		INTERCOM	
MESSAGE PAD		LETTER OPENER	
PAPERCLIP DISPENSER		LYSOL	
V-SHAPED PAPER HOLDER		PAPERCLIP DISPENSER	
PENCIL		V-SHAPED PAPER HOLDER	
PICTURE FRAME		PEN	
ROLLODEX		TAPE DISPENSER	
SODA		TELEPHONE	
STAPLER		TRAY - IN/OUT	
TAPE DISPENSER		TYPEWRITER	
TELEPHONE			
TYPEWRITER			
TRAY			

ITEM	NB	ITEM	NB
ASHTRAY		MAN	
BOOK IN SHOPPING BAG		MAINTENANCE WORKER	
BULLETIN BOARD-HALLWAY		RACE	
BULLETIN BOARD-FLOOR		HEIGHT	
BULLETIN BOARD-WALL		BUILD	
CABINET BY HALL DOOR		HANDEDNESS	
CARDBOARD BY WALL		POSTURE	
CARPET		DESCRIPTION OF HAIR	
CHAIRS-TWO BY DOOR		GLASSES	
CHAIR-BETWEEN DESKS		NEEDING A SHAVE	
COFFEE ON CABINET		NO JEWELLERY	
COFFEE POT		LONG-SLEEVED SHIRT	
DOOR TO HALL		T-SHIRT	
DOOR TO INNER OFFICE		JEANS	
DOORSTOP FOR KNOB		BELT	
DOORSTOP-WOODEN		NO SOCKS	
ENVELOPE IN BAG		SHOES	
FILING CABINET BY WALL		TOOLBOX	
FILING CABINET BY DOOR		CIGARETTES	
LIGHT SWITCH		POCKET KNIFE	
MAGAZINES ON TABLE		GUM	
MAGAZINE RACK		ANACIN	
MONEY IN ENVELOPE		WRENCH	
NOTICE ON WALL BY DOOR		OIL	
RACQUET IN BAG		MATCHES	
SHELF ABOVE NEAR DESK		RAG	
SHOPPING BAG			
SWEATER IN BAG			
TABLE BETWEEN 2 CHAIRS			
THERMOSTAT			
WALLS			
WASTEPAPER BASKET			

ITEM	NB	ITEM	NB
WOMAN		SKIRT	
SECRETARY		BLOUSE	
RACE		SHOES	
DESCRIPTION OF HAIR		UMBRELLA	
BUILD		PURSE	
HEIGHT		WATCH	