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ABSTRACT

The recall of an event such as a robbery has been shown to be affected by how closely post-event information corresponds to what the witness actually saw. The purpose of this study was to investigate how the effect of misleading information may be influenced by expertise of the source of the post-event information. Results revealed that subjects recalled less accurately when they received misleading information in the narrative than when the information corresponded with what they had viewed, whereas the accuracy of the recall was unaffected by whether the witness in the narrative was an expert or a non-expert. Subjects rated the narrative witnesses as having equal credibility. This study suggests that the memory for events related to a crime-scene may be impaired by misleading post-event information, but is unaffected by the source of that misleading information when the sources differ in occupational expertise.

INTRODUCTION

A significant body of literature has shown that misleading post-event information impairs memory for the original event (Loftus, 1979; Loftus & Loftus, 1980). Many of these studies involved subjects looking at a slide presentation of an event, reading misleading post event information, and answering a questionnaire measuring recall accuracy. The results consistently indicated that misinformation did affect recall accuracy (Lindsay, 1990; Loftus, Miller, & Burns, 1978: McCloskey & Zaragoza, 1985; Tousignant, Hall & Loftus, 1986; Tversky & Tuchin, 1989; Zaragoza, McCloskey & Jamis, 1987; Zaragoza & Koshmider, 1989).

Furthermore, eyewitnesses exposed to misleading information on some aspect of a previously witnessed event are likely to report the misleading information with confidence (McCloskey & Zaragoza, 1985; Zaragoza, McCloskey & Jamis, 1987; Tversky & Tuchin, 1989). However, a significant line of research (Bekerian & Bowers, 1983) suggests that the malleability of eyewitness memory is largely due to a mismatch of encoding - retrieval cues . Bekerian & Bowers proposed that the typical paradigm used to study eyewitness memory (slide presentations, questionnaire containing misleading questions, recognition memory tests would bias subjects towards forgetting the critical details since the thematic context in which subjects recalled did not match their encoding context. When order was preserved at recall these authors found no effect of misleading information (Tulving & Thomson, 1973). Zaragoza and Koshmider (1989) found that exposure to misleading information did not lead subjects to believe that they remembered seeing the misinformation nor did it reduce subjects' ability to accurately identify the source of the originally seen details. The results of this study do not support the hypothesis that misleading information impairs memory of the originally seen event and suggests that subjects may report misinformation from the narrative even if they know they did not see it.

Lindsay (1990) supported the hypothesis that misleading suggestions can impair recollection. This result was consistent with Loftus's original hypothesis. Lindsay's study however was different from the other studies in that this study used the design based on the "logic of opposition", and the study consisted of informing the experimental subjects that they were going to be deceived in the questionnaire. It is quite possible that the suggestion alone might have caused the subjects to be overly cautious in reading the narrative and answering the recall questionnaire which in turn might have affected the results.

Previous research studies on eyewitness testimony have focused on the

effects of misinformation on the accuracy of recall. However, there has not been a study that has studied the effects of correct information on accuracy recall. All of the previous studies had used misinformation for the experimental condition and for the control condition used "neutral" information that was neither consistent nor inconsistent with the correct information. Correct information would increase recall accuracy; for example, in realistic cases where eyewitnesses are not sure of the details, correct information might cue memory and enhance recall accuracy. In the present study one we investigated the effects of incorrect information compared to correct information on recall accuracy.

The studies done on eyewitness testimony have great implications in the areas of social psychology and law. In court cases involving eyewitness testimony it is important for the witness to be able to testify to accurate information. Eyewitness testimony is commonly accepted as being the truth by juries; however, in light of recent studies on the subject of eyewitness accuracy, the results are convincing that recall might not always be accurate. In the judicial setting, it is common to see lawyers use "misleading suggestions" to get the witness to answer in a way that provides evidence for their case (Smith, 1989); therefore, it is important to know whether or not witnesses can be persuaded to report incorrect information.

In addition, politicians, lawyers, and other professionals have utilized their credibility to improve acceptance of their messages. A study by Chebat, Filiatrault and Perrien (1990) investigated the effect of credibility on message acceptance, where credibility had two component, cognitive and affective. The cognitive component was trustworthiness and expertness, and the affective component consisted of attractiveness and prestige. The subjects answered a questionnaire on credibility of the source and message acceptance. The results of their study indicated that credibility has an impact on message acceptance where the more credible source had the greater message acceptance by the subjects.

Credibility may also be operationally defined in terms of experience. A study done by Okamoto & Sugahara (1986) defined a credible source as someone who watched the film 5 times and the non- credible source as someone who watched the film only 1 time. The study consisted of subjects viewing a film and reading narrative about the film and answering questions testing recall accuracy. The results of this study indicated that post-event information affected recall; however, perceived credibility did not effect recall. In the present study we investigated the influence of a different operational definition of expertise: the influence of occupational expertise(expert(policeman) versus non-expert(salesman)) on acceptance of misinformation and/or correct information.

To summarize, when subjects witness an event and are exposed to misinformation about the event, past research suggests that the subjects would report the misinformation with confidence (Lindsay, 1990; Loftus, Miller & Burns, 1978; Zaragoza & Koshmider, 1989). Whether these findings reflect a rewrite of the original memory or a retrieval interference is not yet known. We propose that if subjects are more easily misled by an expert source than a non-expert, then there is some source monitoring error occurring of either encoding or retrieval. Source monitoring error refers to the inability of the subject to discriminate between information obtained from the original event and information obtained from the post-event narrative. Source monitoring error would suggest something other than passive rewrite system. When subjects are given statements by an expert as opposed to a non-expert source, the research data suggests that the subjects are more likely to accept information from the expert source (Chebat, et. al., 1990). In the present study we investigate two hypotheses: subjects are more likely to be misled by incorrect information than correct information, and subjects will be more likely to report the information that comes from the expert than the non expert source.

METHOD

Subjects

Forty-five graduate and undergraduate students (13 males and 32 females) from Loyola Marymount University volunteered for this experiment. Approximately one-half of the subjects received extra credit in their psychology courses for their participation in the experiment.

Materials

The stimulus materials consisted of slides, three of which were critical, depicting a theft scene. All slides were presented on an slide projector carousel onto a white screen. The distance of the projector from the screen was 14 feet and 6 inches. The visual image from the slide projector was projected 4 feet from the floor. The slide sequence depicted a sunny summer day at an outdoor mall. The slides began with two filler slides of the outdoor mall. Next, a female dressed in a blue dress was shown carrying two bags, while a male in a white shirt and gray shorts followed her. The male was shown taking one of the bags from where the female placed them. The last two slides in the slide sequence were filler slides of the outdoor mall.

All subjects were randomly assigned to one of five groups: Correct/ Expert, Correct/ Non-Expert, Misled/ Expert, Misled/ Non-expert, and unrelated narrative.

Our expert source was identified as a police officer, and the non-expert as a salesman. We based the credibility on the occupational title alone. The post event narratives contained six critical items from three of the critical slides presented to the subjects. Three of the items were from the foreground, and three from the background. In the narrative containing correct information, the six critical items were congruent with the slide sequence. The six critical items in the misleading narrative were manipulated. The unrelated narrative consisted of a text of the same length as the experimental texts which was about women in the civil war.

All instructions were presented via a cassette player. The subjects were seated between 8'4" - 13'9" from the tape recorder. The tape recorder was placed on a desk which stood approximately 3' tall.

At the completion of the narrative, all subjects were asked to answer a 12-item true/false recognition test on the event depicted in the slide presentation, along with a confidence rating of their answers to each question. An overall credibility rating of the source of the narrative was also used. A measurement of credibility was required to test the effect of a credible source on the acceptance of post-event information, correct or misleading, over the subjects memory of the actual event.

Procedure

Independent variables were (a) credibility of the source of the post-event narrative (policeman/ expert vs. salesman/ non-expert) and (b) the type of information presented in the post-event narrative (correct vs. misleading). The dependent variables were measured by analyzing the subjects recall of critical items from foreground, background, and total critical items. The second dependent variable measured was the confidence rating subjects gave themselves on their recollection of the event.

Subjects were informed, via an audio tape, that the experiment would test memory and recall pertaining to visual stimulus. They were told that they should pay careful attention to the slide presentation. Each slide was displayed on a white screen for 12 seconds. Following the visual presentation, the subjects were given a booklet containing the written materials. First, the subjects were told to turn to the first page and begin the filler task. The filler task was a word search puzzle which the subjects had to complete in five minutes. After the five minutes was completed, the tape player was turned on. Subjects were then instructed to turn to the narrative which depicted the events in the visual presentation (either true or false) or trivial information (the control). Subjects had two minutes to read the narrative. The instructions explicitly informed the subjects

that they were not to reread the material. At the completion of two minutes, subjects were instructed to turn to the questionnaire portion of the booklet. Next, subjects received a true/false recognition test accompanied by the 5-point confidence scale. Each subject was instructed to respond to each item based on their recall and rate their confidence in their responses on a Likert scale, from 1 through 5. Subjects were instructed not to change their answers. The last item of the test asked which subjects to rate their narrative's depiction of the event (with a credibility rating of 1 not at all credible to 5 extremely credible). After the true/false test, confidence rating, and narrator's credibility rating, subjects were asked to complete a demographic questionnaire. When everyone had finished, the booklets were collected and the subjects were debriefed as to the nature of the experiment.

RESULTS

Recall

The results of a 2X2 between-subjects ANOVA (excluding the unrelated narrative group) revealed that there were no significant main effects of source or interaction effects on the recall measures: foreground items, background items and combined items. Thus the analysis was collapsed across source and analyzed with a one-way ANOVA (misinformation, correct information, and neutral information). There was a significant main effect of the information type on the recall measures. On the foreground measure ($F(1,31)=6.704$, $p<0.05$), subjects given misleading information scored lower than subjects given correct information (M=1.650 vs. M=2.536). on the background measure ($F(1,31)=4.931$, $p<0.05$), subjects given misleading information scored lower that subjects given correct information (M=1.350 vs. M=2.134). Lastly, on the combined measure, subjects given misleading information scored lower that subjects using correct information (M=3.00 vs. M=4.527).

Post-hoc t-tests comparing the four groups to the control group revealed that on questions pertaining to the foreground information the control group (M=2.20) scored slightly but not significantly higher than the group receiving misleading information. On the background measure the control group (M=1.80) scored slightly but not significantly higher than the misleading information group.

Confidence

There were no significant main effects of confidence on source or information type in the results. There was a significant interaction between the two variables, $F(1,31)= 4.088$, $p<.05$. However, planned independent t-tests did not reveal any significant differences between the means.

Credibility

No significant main or interaction effects were observed for credibility or information type.

DISCUSSION

In this study we investigated whether subjects are likely to be misled by misinformation when this information is given in a narrative form compared to reinforcement through repetition in the same narrative format. As expected, subjects given misleading information in a post-event narrative obtained lower recall scores than those subjects who received correct information. These results are consistent with previous findings by Lindsay (1990), Tousignant, Hall, and Loftus (1986), and Zaragoza, Jamis, and McClosky (1987). In each of these studies results indicated that misleading suggestions can interfere with a subject's ability to recollect event details. This phenomenon has been referred to as the "misinformation effect" (Tousignant, Hall, and Loftus, 1986).

Several reasons for this memory impairment have been suggested: (1) demand characteristics, (2) higher rate of correct guessing; and (3) differential response criteria for report of event details on control and misled items (Lindsay, 1990) and overwriting of the original memory (Loftus, Miller & Burns, 1978).

Although the ongoing debate among cognitive psychologists regarding what actually happens to the original information is still unsettled, our results and previous studies continue to indicate that misleading post-event information does indeed affect a subject's ability to recall the original information.

The lack of significant findings for the source variable suggests that subjects may not have had this information available to them at retrieval time. This may have occurred because subjects were insensitive to source at encoding or that, at retrieval, subjects did not distinguish between the original memory and the narrative source. This apparently occurred regardless of whether the narrative information was misleading or correct, or from an expert or non-expert. Expertise in this study was assigned, after Bregman and McAllister (1982), according to competence (i.e. personal knowledge of and understanding about the material). The lack of any differences in credibility ratings may have been due to our operational definition of credibility. Occupational title alone may provide insufficient information to subjects for them to make an accurate judgment of credibility. It may also have provided the subjects with inadequate data for them to distinguish, at encoding or retrieval, between the original memory, or the narrative information. Another reason for this result may have been sociological in that the study was conducted in Los Angeles near the site of the Rodney King police brutality incident within four months of the incident. Police credibility may have been undermined in our sample by this incident.

If subjects were unable to discriminate one source of information from another at recall, then their confidence levels would be expected to be similar for these retrievals. We found that subjects had similar confidence levels regardless of whether they had read the misleading, correct or neutral narrative, and whether there narratives were from an expert or non-expert source. These findings may be attributed to source monitoring errors. Source monitoring error refers to the inability of the subject to discriminate between information obtained from the original event (source #l) and information obtained from the post-event narrative (source #2). Because of the lack of ability to discriminate, a person is likely to recall incorrect information from the second source or post-event narrative, believe it as being correct and rate himself as being confident in his recall of incorrect information. This hypothesis has been supported by other researchers (Cole & Loftus, 1979; Greene, Flynne Loftus, 1982).

In studies of eyewitness testimony, internal validity versus external or ecological validity is a big issue. The question that arises, is how can the results from an experiment executed under very controlled circumstances be applied to general society?

This study was conducted using a realistic slide presentation to simulate an actual crime scene and realistic sources. The goal was to simulate a less controlled environment, and increase ecological validity.

The applications of this study and others like it are many, such studies touch on areas ranging from the proceedings carried out in the court room to research being carried out in areas of psychology such as social or cognitive psychology. In terms of court proceedings, research can affect how witnesses are handled during questioning so their recall can be guaranteed to be as unaffected as possible by post-event information in the form of reports, and repeated questioning by various sources ranging from police investigators to attorneys.

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