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**COURTROOM PREPARATION OF HYPNOTIC AND NONHYPNOTIC
EYEWITNESSES: JURORS' PERCEPTIONS OF WITNESS TESTIMONY AND
THE IMPACT OF EXPERT TESTIMONY.**

by

SUSAN C. DUBREUIL, M.A.

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of
Doctor of Philosophy
Department of Psychology**

Carleton University

Ottawa, Ontario

March 1994

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**Courtroom Preparation of Hypnotic and Nonhypnotic Eyewitnesses: Jurors'
Perceptions of Witness Testimony and the Impact of Expert Testimony.**

submitted by

SUSAN C. DUBREUIL, M.A.

in partial fulfilment of the requirements
for the degree of Doctor of Philosophy

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Abstract

Assessed in Experiment 1 were the hypotheses that hypnotic imagery based procedures enhance the accuracy of eyewitness identifications, bolster the confidence witnesses hold in their identifications, increase susceptibility to misleading questions, and immunize witnesses against breaking down during cross-examination. Also examined were the effects of pretrial preparation on the confidence witnesses held in their in-court identifications and on the extent to which witnesses resisted discreditation during cross-examination. One-hundred twenty subjects saw a videotaped simulation of a murder and twice tried to identify the offender from a photographic lineup; first, after completing a distracter task approximately one-half hour after witnessing the crime, and second, after receiving one of four recall strategies (Hypnotic Imagery, Hypnosis Alone, Imagery Alone, Control) at least one-week after witnessing the crime. Witnesses in all four recall conditions showed equivalent rates of misidentification and witnesses who misidentified the offender were as confident in their identifications as were witnesses who correctly identified the offender. Hypnotic witnesses were more confident in their out-of-court identifications than were nonhypnotic witnesses, but were as certain in their in-court identifications as were nonhypnotic witnesses. At least one-week after receiving their recall strategy witnesses were examined and cross-examined in a mock courtroom setting. Neither Hypnosis nor Imagery influenced any measured aspects of the witness testimonies, however, prepared witnesses were more certain in their in-court identifications and were more resistant to cross-examination than were unprepared

witnesses.

Experiment 2 assessed the impact of hypnosis, pretrial preparation, and expert testimony on jurors' assessments of guilt and their perceptions of a subset of eyewitness testimonies from Experiment 1. Jurors watched one of eight videotaped trials which included videotaped eyewitness testimonies from Experiment 1. Within each of the four witness conditions (hypnosis/no hypnosis x prepared/unprepared) half of the jurors saw an expert psychological witness testify about the unreliability of human memory and the remainder did not. Jurors who saw the expert witness voted to acquit the defendant significantly more often than did jurors who did not see the expert witness. Jurors believed that the prepared witnesses were more confident and accurate in their identifications than unprepared witnesses. Preparation also mediated the effects of the expert witness on jurors' private beliefs in the defendant's guilt.

ACKNOWLEDGEMENTS

I'd like to share the completion of this thesis with the many people who supported and encouraged me throughout my studies; each in their own way contributed to the completion of this thesis. I am indebted to my advisor, Nick Spanos, for his encouragement, guidance, and support in every aspect of my undergraduate and graduate career. His caring, kind, and empathetic nature from the M and the M will be sadly missed.

My family provided unyielding support, understanding, and encouragement. Thanks to my father, Bert, whose belief, pride in and love for his children is a continual source of encouragement. To my twin Mike whose support (and sometimes his body) traversed over 1500 miles to land on my doorstep when it was desperately needed. To Steve and Gretchen for their down-to-earth nature, for sharing their roof and their family. Their family oriented philosophy has been a sustaining force throughout my career. To my sister Deb for constantly encouraging my academic endeavors. To my Mom, Joan, who seemed to have some intuitive sense of what it's like to be a graduate student and whose on- and off-campus support was immeasurable. Finally, to my life-long friend, Heather Scott for the endless hours she spent listening to my rantings and ravings and for being there nonetheless from the last days of the Honours through to the last ones of the Phd.

Finally, I'd like to make specific mention of a few of the many friends and labmates with whom I've shared the delights and despondencies of graduate school. Specifically, to the undercover slug, Cheryl Burgess; our late night conversations, and 'early' morning OC Transpo commiserations will be sorely missed. Thanks to D'Arcy 'Big Chill' McCallum for seeing fit to drag me out of the Loeb building, encourage and support nonacademic indulgences, make sure I saw enough of the lighter side of life and for her outright support of any of the numerous conflicts I experienced. Finally, I'd like to thank the stars of stage, screen, and the courtroom, Caroline and Chris Burnley, for their seemingly never ending and generously given testimonials.

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Eyewitness identifications are the most common type of evidence admitted in criminal courts and many cases often hinge on eyewitness testimony in the absence of corroborating physical evidence. Moreover, the findings from several jury simulation studies suggest that mock jurors place a great deal of faith in eyewitness accounts in reaching their verdicts (e.g., Loftus, 1974). However, anecdotal cases and empirical research now indicate that such faith in the accuracy of eyewitness identifications may be unwarranted. Several anecdotal accounts describe cases in which innocent people have been wrongly convicted on the basis of eyewitness identifications (Goodman & Loftus, 1992; Loftus, Greene & Doyle, 1989).

These accounts of misidentification are corroborated by recent field studies and numerous laboratory studies which indicate that eyewitness identifications are often inaccurate (e.g., Brigham, Maas, Snyder & Spaulding, 1982; Cutler, Penrod & Martens, 1987; Cutshall & Yuille, 1989; Yuille & McEwan, 1985). The empirical literature concerning the accuracy of eyewitness recall is less clear. Some researchers argue that eyewitness recall is also very inaccurate (Wells & Murray, 1984), whereas others argue that eyewitness recollections about the details of a crime are generally fairly accurate (Cutshall & Yuille, 1989).

With these findings in mind, research in this area has moved beyond simply documenting the accuracy rates of eyewitness recollections to delineating factors that influence the accuracy of eyewitness recall (Cutler et al., 1987) and developing techniques which may enhance the accuracy of eyewitness accounts (Sanders, Gansier & Reisman, 1989). One such technique which is becoming increasingly popular is

hypnosis. Within the last 2 decades the use of hypnosis in forensic contexts has increased dramatically (Reiser, 1989). Decisions by the American (1958; 1985) and Canadian Medical Associations (1958) to recognize hypnosis as a legitimate medical procedure contributed to its increased popularity (Schefflin & Shapiro, 1989). In addition, numerous highly publicized anecdotal reports of cases ending in conviction based on evidence obtained through hypnotic procedures (e.g., Kroger & Douce, 1980; Reiser, 1974; Reiser & Nielson, 1980) have also promoted the notion that hypnosis facilitates accurate memory. For example, in the highly publicized Chowchilla kidnapping case one of the witnesses was hypnotized and recalled all but one of the numbers on the licence plate of the offenders' van (Kroger & Douce, 1980). Although the witness was never called to testify in court, details derived during the hypnotic session led to the arrest and subsequent conviction of the assailants. In another anecdotal account, a witness who was highly intoxicated during a murder was unable to provide a description of one of the suspects (Reiser, 1974). However, during an hypnotic interview she recalled an accurate description of the suspect. The detailed description of the suspect, who was in fact an accomplice to the murder, led to his apprehension and the subsequent arrest of the murderer. In both of these cases, the hypnotically facilitated recall was corroborated by independent physical evidence.

The notion that hypnosis enhances memory is further perpetuated because there are relatively few published accounts of cases in which hypnosis was unsuccessful. There are numerous instances in which hypnotically refreshed recollections were

inaccurate and many others in which it was impossible to determine the veracity of hypnotically recalled details. Nevertheless, the perception that hypnosis is highly effective in facilitating the recall of accurate information produced a demand for the services of hypnosis specialists (e.g., Arons, 1967; Reiser, 1974) and led to the establishment of the Law Enforcement Hypnosis Institute (Reiser & Nielson, 1980). This agency was established in 1976 and is associated with the Los Angeles Police Department. The program teaches criminal justice personnel forensically relevant hypnotic procedures. Reiser and Nielson (1980) examined the effectiveness of the LAPD hypnosis program over a two year period. They reported that 80% of approximately 374 hypnotic sessions performed elicited previously unrecalled information. However, only 67% of this new information was considered forensically useful and less than half of the hypnotic sessions elicited information that could be corroborated by other evidence ($n = 161$). Within these sessions 90% of the details were considered at least somewhat accurate. Police investigators indicated that hypnosis was at least somewhat helpful in about 65% of the cases that had been solved. However, at least 68% of the cases remained unsolved at the time of publication suggesting that hypnosis did not reveal crucial information in these cases. Kroger and Douce (1980) conducted a feasibility study with the Federal Bureau of Investigation concerning the utility of forensic hypnosis. Over a four year period 53 witnesses to 23 crimes were hypnotized. Kroger and Douce reported that useful information was derived from 60% of the hypnotic sessions in these cases. Authors in both of these studies concluded that hypnotic techniques were more effective than

standard nonhypnotic interrogation procedures. Schafer and Rubio (1978) reported even higher rates of success. They reported that hypnosis uncovered valuable information in 10 of 13 cases in which a witness was hypnotized.

Taken together these three field studies suggest that hypnosis may be an important tool for uncovering forensically relevant information. However, in none of these studies were hypnotic and nonhypnotic witnesses compared. Some evidence suggests that subjects increase the amount of accurate information they report across successive recall trials (Scrivner & Safer, 1988). Therefore, the authors of the previously mentioned field studies may have misattributed increases in recall to hypnosis rather than to repeated attempts to recall details of the crimes.

The empirical literature concerning the effectiveness of hypnosis as a means of enhancing the quantity and accuracy of eyewitness recollections is equivocal. Several laboratory studies indicate that hypnotic and nonhypnotic procedures produce equivalent levels of total recall (e.g., Yuille & McEwan, 1985), that hypnotic witnesses are no more likely to correctly identify an offender than are nonhypnotic witnesses (Spanos, Quigley, Gwynn, Glatt & Perlini, 1991), and that hypnotic recall is no more accurate than nonhypnotic recall (Spanos, Gwynn, Comer, Baltruweit & deGroh, 1989; Zelig & Beidleman, 1981). In fact, several studies suggest that hypnotic techniques may have negative effects. Some researchers argue that hypnotic witnesses may be more susceptible to misleading questions (Putman, 1979; Zelig & Beidleman, 1981) and may become more confident in their inaccurate memories than nonhypnotic subjects (Diamond, 1980). Although hypnosis has been used to enhance

the recall of witnesses, victims, and defendants involved in criminal cases, this paper will be restricted to assessing the efficacy of hypnosis as a means of enhancing the memories of witnesses to criminal events. Reviewed in this paper are studies which have assessed the effects of hypnosis on: (a) eyewitness identification accuracy, (b) eyewitness susceptibility to leading questions, and (c) eyewitness confidence. In addition, studies which have examined the impact of pretrial preparation instructions are also reviewed. Some evidence suggests that commonly used pretrial briefing procedures may increase witnesses' confidence in their recollections (Wells, Ferguson & Lindsay, 1981) and may decrease the likelihood that witnesses can be effectively cross-examined (Lindsay, Wells & O'Conner, 1989).

Eyewitness Identification

In a typical eyewitness identification task subjects watch a simulated crime and attempt to identify the offender from a lineup. Even though the simulations and lineups are presented in many different modes (e.g., video, slides, live) the research findings are overwhelmingly consistent. Numerous studies indicate that hypnotic and nonhypnotic eyewitness identifications are often incorrect. Moreover, studies now indicate that numerous variables negatively influence the accuracy of eyewitness identifications (e.g., exposure duration, facial disguise, retention interval).

Nonhypnotic witnesses. Cutler et al. (1987) showed students a videotape of a simulated robbery and had them attempt to identify the offender from a videotaped lineup after a retention interval of one week. Among subjects who saw a target present lineup, 52% misidentified the offender, 5% incorrectly rejected the lineup and

only 43% correctly identified the offender. O'Rourke, Penrod, Cutler, and Stuve (1989) selected subjects from three different populations in an attempt to obtain a more representative sample with respect to subject age (range 18 to 74). They exposed these older subjects to the same simulated robbery used in Cutler et al. (1987) and found a similar pattern of findings. Overall, O'Rourke et al. reported an accuracy rate of only 43%.

Several studies that exposed subjects to staged criminal events found that subject-eyewitnesses correctly identified the offender less than 60 percent of the time (e.g. Malpass & Devine, 1981; Wells, Ferguson et al., 1981). Malpass and Devine (1981) exposed students to a staged vandalism and had them try to identify the offender from a live lineup. Overall, error rates were slightly lower in this study and were mediated by eyewitness' perceived consequences of their identifications. Nonetheless, at least 43% of the subjects made an incorrect identification.

Brigham et al. (1982) obtained similar accuracy rates when they exposed 63 convenience store clerks to two shopper-confederates. The confederates behaved in such a way as to increase the salience of their exposure to the clerks. For example, one of the confederates paid for their purchase entirely with pennies and both confederates asked the clerks for complex directions to a far-off location. After the exposure, experimenters posing as senior law students approached the clerks, indicated that there were looking for two individuals who may have been implicated in criminal wrongdoing, and asked the clerks to identify the individuals from a photographic lineup. Brigham reported an accuracy rate of only 34%. Twenty-four

hours later, 15 of the 63 clerks were again administered the identification task. After the retention interval clerks were unable to identify the confederates at above chance levels.

Yuille tested subjects who were witnesses to one of a series of actual bank robberies carried out by two offenders (Cutshall & Yuille, 1989). Two years after the robberies sixteen witnesses were shown either a target present or target absent lineup involving eight photographs. Overall, witnesses were highly inaccurate on the identification task. All 6 witnesses who were shown a target absent lineup and 5 of the 10 witnesses who saw a target present lineup misidentified the offender. Only four subjects in the target present condition correctly identified the offender and one subject erroneously rejected the lineup. Overall, only 25% of the eyewitnesses in this study correctly identified the offender.

Taken together, these and many other studies reviewed elsewhere (e.g., Loftus et al., 1989) indicate that both subject-eyewitnesses and actual-eyewitnesses are often inaccurate in identifying offenders from criminal lineups. In fact, the findings indicate that subjects are more likely to misidentify the offender or to reject a target present lineup than they are likely to correctly identify the offender. Moreover, identification accuracy has been shown to be negatively influenced by numerous variables such as retention interval (Brigham et al., 1982), consequences of the identification (Malpass & Devine, 1980), offender disguise (Cutler Penrod & Stuve, 1988), the context of the crime (Cutler et al., 1987), and the presence of a weapon (Loftus, Loftus & Messo, 1987; Steblay, 1992).

Hypnotic witnesses. Hypnotic procedures typically include imagery based suggestions and most clinicians (e.g., Kroger & Douce, 1980) believe that imagery compliments the effects of the hypnotic induction procedure. This common-sense perception was tested in two studies that systematically manipulated the presence or absence of imagery based and hypnotic instructions. These studies suggest that imagery based instructions do not appear to influence eyewitness identifications either on their own or in conjunction with an hypnotic induction procedure. Spanos, Quigley et al. (1991) found that hypnotic witnesses to a simulated murder were no more likely to misidentify the offender than were nonhypnotic subjects. Eyewitnesses who received hypnotic imagery-based instructions, hypnosis alone or control instructions did not correctly identify the offender at above chance levels. After receiving their recall strategies, only 22% of subjects who saw a target present lineup correctly identified the offender and subjects who saw a target-absent lineup showed equivalent rates of misidentification.

Consistent with the findings in Spanos, Quigley et al. (1991), Yuille and McEwan (1985) did not find any differences among subjects from the 6 cells of a 2 (guided memory & imagery) x 3 (hypnosis, relaxation & waking) factorial with respect to their identification accuracy on a recognition task. Subjects watched a simulated armed robbery and 3 weeks later attempted to select one of the actors from a photographic lineup. Neither the type of recall instructions nor the hypnotic induction procedure influenced eyewitness recognition. Only 28.5% of the subjects correctly identified the offender.

Spanos, Gwynn, Comer et al. (1989) found slightly lower rates of misidentification but again reported nonsignificant differences between hypnotic and nonhypnotic witnesses. They showed subjects a videotape of a simulated armed robbery and several days later exposed subjects to a simulated newscast in which a suspect, who was not the offender, was shown. Hypnotic and nonhypnotic subjects who were administered leading questions did not differ with respect to the selection of mugshots from a target absent lineup. Forty-one percent of these treatment subjects inaccurately identified one of the foils as the offender.

Taken together these three studies suggest that hypnotic and nonhypnotic eyewitnesses perform equitably on identification tasks. In contrast to these findings, Sanders and Simmons (1983) reported that hypnosis inhibited the accuracy of eyewitness identifications. Subjects watched a videotape of a simulated theft involving a pickpocket. One week later, subjects were shown either a videotaped lineup that included the offender or a videotaped lineup that included a leading target. Overall, hypnotic subjects were less accurate in their identifications than were nonhypnotic subjects.

In contrast to the previous four studies, Sanders et al. (1989) found that hypnosis increased the accuracy of eyewitness identifications. Community members were exposed to a staged theft and then interviewed about the event. Half of the subjects were administered an hypnotic interview and the remainder were interviewed without hypnosis. During the interview, hypnotic subjects correctly identified the offender from a photographic lineup significantly more often than nonhypnotic witnesses.

Fifty-six percent of the hypnotic witnesses correctly identified the offender, 8% incorrectly identified a foil, and the remainder rejected the lineup. In contrast, only 27% of the nonhypnotic witnesses correctly identified the offender, 22% incorrectly identified a foil, and 50% did not choose a mugshot. False identifications were equivalent across the two groups. Thus, the superior performance of hypnotic witnesses cannot be explained in terms of a tendency for hypnotic subjects to guess more often than nonhypnotic subjects. The differences, however, may have been due to variations in the interviews. Sanders et al. mention that the form of the interviews were the same across conditions, however, the interviews were not standardized. Hypnotic witnesses may have been led to choose the offender or been given leading implications about the offender to a greater extent than nonhypnotic witnesses.

Eyewitness Recall

The findings concerning the accuracy of eyewitness recall are mixed. Several laboratory studies now indicate that eyewitnesses are often inaccurate about what they recall of a criminal event. However, other studies indicate that eyewitnesses are generally fairly accurate in their narrative recall of criminal events.

Nonhypnotic witnesses Smith, Kassin and Ellsworth (1989) showed 96 students a series of slides involving a car accident. On average, subjects were accurate on only 63 percent of the 38 objective questions they were asked about the incident. In contrast to the typically low rates of recall accuracy found in experimental studies, Cutshall and Yuille (1989) found relatively high accuracy rates using witnesses to actual crimes. They tested witnesses to three violent criminal events. Yuille found

that, in general, eyewitnesses were very accurate about details concerning the sequence of criminal events and details about inanimate objects at the crime scene (e.g., offenders car) but were less accurate in describing the offenders. Subjects showed equivalent and high recall rates during both the police interview and a research interview which was conducted two years after the crimes. They found that the most common type of inaccurately recalled details were estimates of age, height and weight. Cutshall and Yuille also reviewed a study that involved interviewing witnesses to several nonviolent bank robberies. These witnesses showed lower rates of recall than the eyewitnesses to the violent crimes. The authors suggested that the supposed higher arousal rates for eyewitnesses to the violent crimes may have facilitated more accurate recall relative to the recall of witnesses who saw the nonviolent robberies.

The findings of Cutshall and Yuille (1990) may, however, be explained in terms of several situational factors that were present in these cases but that may be absent in other crimes. In all three of the violent crimes the witnesses were not themselves personally involved in the crime. They were merely bystanders to disputes among other individuals. Therefore, witnesses in these studies may have been relatively unconcerned about their personal safety. Moreover, in all of the three violent incidents someone was injured and/or killed. If police were preoccupied with the injured parties witnesses may have had time to discuss the events and corroborate their stories with other bystanders. Often, eyewitnesses are exposed to criminals for only a short period of time in personally dangerous situations. In the fourth case

reviewed by Cutshali and Yuille, the witnesses were in personal danger and were exposed to the offenders for only a short interval. Differences in exposure duration, witnesses perceptions of potential personal danger, and the degree of personal victimization may account for the differences in recall rates across these crimes.

Hypnotic witnesses. The findings concerning the efficacy of hypnosis for enhancing witnesses' recollections to criminal events are mixed. One study reported a facilitative effect for hypnosis in this regard (Sanders et al., 1989) and one study found that hypnosis enhanced subjects ability to accurately recall incidental information (DePiano & Salzberg, 1981). In contrast, several studies indicate that hypnosis does not enhance the quantity of accurate eyewitness recollections to either central or peripheral details (e.g., Buckhout, Eugenio, Licitra, Oliver & Kramer, 1981; Yuille & McEwan, 1985) and two studies demonstrated that, in some circumstances, waking subjects outperformed hypnotic subjects (Yuille & McEwan, 1985; Sanders & Simmons, 1983).

Sanders et al. (1989) found that subjects who were administered an hypnotic interview recalled significantly more details on a free recall task, an objective recall task, and on a cued recall task than did nonhypnotic subjects. Hypnotic subjects were also rated by lawyers as providing more complete descriptions and as being more consistent in their testimonies than nonhypnotic subjects. Unfortunately, nonhypnotic witnesses in this study were not given any instructions in lieu of the hypnotic interview. Timm (1985) argued that no-instruction-controls are inadequate. He suggested that differences in performance rates between hypnotic and nonhypnotic

subjects may be due to the structure provided by the hypnotic procedure rather than the hypnosis per se.

A second study demonstrated support for the notion that hypnosis may facilitate recall for incidental information. DePiano and Salzberg (1981) showed subjects a videotape of a noncriminal event. Hypnotic subjects in this study recalled substantially more incidental information about the experimental context than nonhypnotic subjects. Specifically, hypnotized subjects recalled more information about the laboratory setting than nonhypnotic subjects. Recall for the videotaped event was not assessed in this study.

Accuracy for recall of peripheral details was tested in two other studies (Buckhout et al., 1981; Yuille & McEwan 1985). Buckhout et al. (1981) showed subjects a videotape of an assault that took place in a prison and assessed hypnotic and nonhypnotic recall for the numbers that appeared on the offender's prison uniform. Hypnosis did not facilitate the accurate recall of this peripheral detail. However, hypnotic subjects were more likely to try to remember the number and consequently were more likely to make an error in recall than were nonhypnotic subjects. Eighty percent of the hypnotic and only 20% of the control subjects tried to recall the number suggesting that hypnotic subjects were more likely to make a guess than were nonhypnotic subjects. Yuille and McEwan (1985) found conflicting findings when they tested subjects' recall for a phone number that was posted on the television monitor subjects were watching. They found no differences in the accuracy of hypnotic and nonhypnotic subjects who tried to recall the number. Moreover,

hypnotic subjects were as likely as nonhypnotic subjects to try to recall the number.

In several studies hypnotic and nonhypnotic subjects have exhibited equivalent levels of accurate recall. Putman (1979) reported that hypnotic and control subjects did not differ in the accuracy with which they recalled the details of a simulated car accident after a short or long delay. However, in light of the small number of subjects in this study ($N = 16$) these findings should be viewed cautiously.

Examination of the means suggests a different pattern of findings. Putnam's data suggest that hypnosis may undermine immediate recall but enhance delayed recall.

With this criticism in mind Zelig and Beidleman (1981) attempted to replicate Putman's findings using a larger sample size. They also failed to find substantial differences between subjects' recall of an 8 minute video depicting gruesome shop accidents. Subjects in the hypnotic and waking conditions did not differ with respect to the number of accurate or inaccurate responses to 15 objective questions. These findings are consistent with those obtained in other laboratory studies. Several studies that exposed subjects to videotaped simulations found that hypnotic and nonhypnotic subjects showed equivalent responses on a variety of recall tasks (e.g., Helwig, 1978; Spanos, Gwynn, Comer et al., 1989).

Timm (1985) also found nonsignificant effects for hypnosis using a more complex event. He staged mock assassinations in which subjects either played the role of an assassin or a victim. Subject-victims were aware that sometime throughout the academic year they would be approached by a subject-assassin and shot with a water gun. Victims were instructed to report to the experimenters immediately after they

were 'assassinated'. They were then interviewed by an experimenter who played the role of a police officer, interviewed a second time by another experimenter, given an hypnotic or nonhypnotic recall procedure, and interviewed a final time. Across these intervals hypnotic and nonhypnotic subjects did not differ with respect to the frequency of correct responses, incorrect responses or the frequency of "I don't know" responses.

Yuille and McEwan (1985) found that eyewitness recall was influenced by an interaction between hypnotic and imagery instructions. Hypnosis did not enhance the recall of hypnotic subjects beyond that of nonhypnotic subjects. Instead, under some conditions hypnotic subjects performed more poorly than nonhypnotic subjects. In contrast to the generally accepted notion that hypnosis and imagery instructions are complementary, Yuille found that subjects given hypnosis plus imagery instructions showed the poorest recall. Subjects who received relaxation plus imagery instructions outperformed all other groups and subjects in the waking condition were not significantly influenced by the type of instructions (imagery vs. guided memory). These findings are consistent with those of Sanders and Simmons (1983) who found that hypnotic subjects performed worse than nonhypnotic subjects in response to several nonleading implications about the offender.

Mutter (1990) and Dorcus (1960) argued that experimental findings should not be generalized to forensic contexts because most of these studies did not include forensically relevant comparison or control groups. They argued that contextual demands and the level of arousal are different in forensic and laboratory settings and

that this difference may result in a different pattern of results concerning the effectiveness of hypnotic recall. However, they presuppose that actual crimes are more arousing than laboratory simulations. In fact, there are many crimes that do not cause immediate distress to the victims or witnesses (e.g., being passed a bad check, being the victim of a pickpocket). Nonetheless, they argued that the failure of laboratory studies to find differences between hypnotic and nonhypnotic recall indicates little about the effectiveness of hypnotic procedures in field settings. We are aware of only one field study that has examined this issue, and the findings of that study failed to support these arguments. Sloan (1981) assessed the impact of hypnotic and standard interrogation procedures on witnesses to actual crimes. The study was designed as a 2 (hypnosis vs. waking) by 2 (standard interrogation vs. interrogation with suggestions for visual imagery) between groups factorial. Sloan did not find any significant differences between groups with respect to the overall amount of information recalled, the amount of accurate information recalled, or the amount of inaccurate information recalled. These findings suggest that real hypnotic and nonhypnotic witnesses to actual crimes recall equivalent amounts of accurate and inaccurate information.

Relationship Between Eyewitness Confidence and Accuracy

Numerous studies have assessed the relationship between eyewitness identification accuracy and subjects' self-ratings of confidence in their identifications. Cutler, Penrod and colleagues have conducted an ongoing and systematic evaluation of factors that influence eyewitness accuracy. One aspect of these studies has been the

presentation of correlational data concerning the relationship between identification accuracy and eyewitness confidence. In these studies subjects watched a videotaped simulation of a crime in which several variables were manipulated. Cutler et al. (1987) found that the mean correlation between identification accuracy and two indices of subject confidence was small ($M_r = .21$). Using the same stimuli, O'Rourke et al. (1989) also reported small but significant correlations between the accuracy of subjects identifications and their confidence in these identifications ($r = .28$).

Wells, Lindsay and colleagues have also contributed to the confidence-accuracy literature (for a review see Wells & Murray, 1984). In these studies subjects were usually exposed to a staged theft and were subsequently required to identify the offender from a lineup. The confidence-accuracy correlations extracted from these studies support the findings of other researchers. They found that the relationship, although small were reliable. Similarly, Yuille and McEwan (1985) found that the confidence-accuracy correlation for subjects who tried to identify an offender (i.e., those who chose a mugshot) was small but reliable. They found that subjects who exhibited more confidence in their identifications also tended to be more accurate than subjects who were less confident in their mugshot selections ($r = .31$).

Bothwell, Deffenbacher and Brigham (1987) conducted a meta-analysis that examined the confidence-accuracy relation across 35 studies that involved live staged events in which eyewitnesses viewed unfamiliar faces for a short interval. Overall, they found that the relationship between eyewitness identification accuracy and

eyewitnesses' self-ratings of confidence in their identifications was small ($r = .24$).

Taken together, these studies clearly indicate that the relationship between the accuracy of eyewitness identifications and the confidence witnesses hold in their identifications is small. Eyewitnesses who are confident in their identifications may be no more likely or only slightly more likely to be accurate in their identifications than nonconfident subjects.

Hypnosis and eyewitness confidence. Investigators who argue against the admissibility of hypnotic testimony posit that hypnotic subjects may place more confidence in both their accurate and inaccurate memories than nonhypnotic subjects. Most researchers have failed to find significant differences in confidence ratings between hypnotic and control subjects on items that were correctly recalled (Putman, 1979; Zelig & Beidleman, 1981; Sanders et al., 1989; Spanos, Gwynn, Comer et al., 1989; Timm, 1985). However, several investigators reported that hypnotic subjects were more confident in their inaccurately recalled memories than were nonhypnotic subjects (Orne, 1979; 1990; Diamond, 1980; Sheehan & Tilden, 1983; Timm, 1985) and incorrect identifications (Spanos, Quigley et al. 1991) than were controls.

Several investigators further argue that hypnotic witnesses are immunized against breaking down during cross-examination. According to this hypothesis hypnotic witnesses become so confident in their recollections that lawyers are unable to discredit their testimonies during cross-examination (Diamond, 1980; Orne, 1979; Perry & Laurence, 1983). Moreover, these investigators argue that hypnotic witnesses are unable to distinguish between real and false memories, become overly

confident in both types of memories, and maintain their beliefs in their incorrect recollections.

A recent anecdotal report contradicts these arguments. Levitt (1990) presented a case study describing a victim who was hypnotized to refresh her memories of a multiple rape. Before the hypnotic interview, the victim in this case was able to identify one of her attackers but was unable to identify the second rapist. During hypnosis she positively and confidently identified the second attacker. However, during her courtroom testimony she recanted her identification and admitted that she was unsure about the identity of the second attacker. Nevertheless, due to the strong circumstantial evidence surrounding the case the defendant was convicted. The Defence appealed the case on the grounds that the hypnotic testimony should not have been admitted. The judge ruled that the victims admission of uncertainty at trial was sufficient to guard against any prejudicial impact of the hypnotic identification. This case suggests that hypnosis does not necessarily create unshakeable witnesses who are resistant to cross-examination.

Three laboratory studies recently examined this question. In one study Spanos, Gwynn, Comer et al. (1989) showed subjects a videotaped crime and later questioned them about what they had seen. Subjects in three treatment conditions (hypnosis + imagery, imagery alone & leading questions alone) were administered eight leading questions which falsely implied that the suspect possessed a number of characteristics (e.g., a tattoo). These subjects were compared to control subjects who did not receive leading questions. At an initial interview controls incorporated significantly

fewer false characteristics (i.e., misattributions) into their descriptions of the suspect than subjects in the treatment conditions. However, during crossexamination hypnotic and imagery subjects disavowed their misattributions to such an extent that they failed to differ from controls. Only subjects in the leading questions alone condition maintained more misattributions at crossexamination than controls.

In a second study designed to compare hypnotic subjects to subjects who received typical pretrial preparation, Spanos, Quigley et al. (1991) found that hypnotic subjects were as likely to breakdown during cross-examination as nonhypnotic subjects. Breakdown was defined as the extent to which subjects disavowed earlier in-court identifications. Taken together, these two studies provide evidence against the idea that hypnotic witnesses become so confident in their memories that they are immunized against cross-examination.

In a third study, hypnotic and nonhypnotic eyewitnesses to a staged theft were examined and cross-examined by practicing lawyers (Sanders et al., 1989). These authors failed to distinguish between confidence in accurate and inaccurate details, however, overall they found that lawyers rated the testimony of hypnotic witnesses more positively than nonhypnotic witnesses. However, hypnotic and nonhypnotic witnesses did not differ in the extent to which lawyers believed they could be effectively cross-examined. In the present study the extent to which hypnotic and nonhypnotic subjects testified about and subsequently disavowed their pseudomemories during cross-examination was examined.

Hypnotizability

Some clinicians argue that hypnotizability mediates the degree to which hypnosis facilitates the recall of previously unrecalled details (Mutter, 1984) and others argue that hypnotizability does not mediate recall (Salzberg, 1977). Overall, the research findings fail to support the hypothesis that hypnotizability facilitates recall in either hypnotic or nonhypnotic subjects. Most studies indicate that hypnotizability does not influence the extent to which subjects recall accurate information about a crime.

Buckhout et al. (1981) found nonsignificant correlations between subjects' pretested hypnotizability scores, their initial levels of recall and the extent to which their recall changed across intervals. Similarly, Yuille and McEwan (1985) did not find any relationship between subjects' hypnotizability as assessed by Wilson and Barber's Creative Imagination Scale and subjects' total recall and Sanders et al., (1989) did not find any differences between subjects who achieved a low or high degree of 'trance depth' during the hypnotic interviews. Lows and highs recalled equivalent levels of accurate and inaccurate information. Similarly, Tallant (1985) and Zelig and Beidleman (1981) found that high and low hypnotizables showed equivalent rates of accurate and inaccurate recall.

Some researchers argue that high hypnotizables are more likely to become overconfident in these inaccurate memories than low hypnotizables. The findings from studies that addressed this issue are equivocal. Tallant (1985) found that high hypnotizables were substantially more confident in their incorrect recall than low hypnotizables. On the other hand, hypnotizability was not correlated with subjects'

confidence in their accurate memories. In contrast, Zelig and Beidleman (1981) found that high hypnotizables were more confident than low hypnotizables in both their accurate and inaccurate memories. Timm (1985) reported similar findings for high hypnotizable subjects. Hypnotizability was related to the degree of confidence highly hypnotizable subjects held in their accurate and inaccurate recall, but was unrelated to the confidence ratings of low hypnotizables. Sanders et al. (1989) reported that hypnotizability did not influence lawyers ratings of witnesses confidence, credibility or consistency in their testimony in a mock courtroom setting.

Relatively few studies have examined the impact of hypnotizability on eyewitness identifications and identification confidence. Spanos, Quigley et al. (1991) found that in some conditions high hypnotizables were more likely to choose a mugshot from a target absent lineup than low hypnotizables. Moreover, hypnotizability was positively correlated with the degree of confidence hypnotic subjects showed in their mugshot identifications. However, they found that, during cross-examination, high hypnotizables were less confident in their identifications than low hypnotizables.

Misleading Questions

Some investigators argue that relative to nonhypnotic subjects hypnotics are more to likely integrate misleading information into their eyewitness accounts and to become so confident in these misbeliefs that they cannot distinguish false from accurate beliefs. Based on these assertions both Orne (1979) and Diamond (1980) argued that hypnotic recall may be so unreliable that it should not be admitted in criminal courts.

Research focussing on these issues has examined three separate but often interrelated questions; (a) whether hypnotic subjects exhibit pseudomemory reporting in response to misleading questions to a greater extent than nonhypnotic subjects, (b) whether pseudomemory reporting in hypnotic and nonhypnotic subjects is mediated by hypnotizability, and (c) whether pseudomemory reports indicate an actual inability to differentiate between real memories and suggested memories. Each of these issues will be examined in turn.

Hypnosis. In the first studies conducted to examine the extent to which hypnotizable subjects endorsed misleading suggestions subjects were age regressed to a night from the previous week and given the suggestion that they were awakened by a loud noise. These studies found that highly hypnotizable subjects incorporated the pseudomemory suggestion into their hypnotic recall. Later, following termination of the hypnotic procedures most of these subjects continued to claim that the suggested event was real rather than imaginary (Perry & Laurence, 1983; McCann & Sheehan, 1987; Spanos & MacLean, 1985). However, numerous studies also indicate that nonhypnotic subjects also integrate the content of misleading questions into their eyewitness accounts of various criminal simulations (e.g., Loftus & Zanni, 1975). Consequently, when examining pseudomemory effects in hypnotic subjects it is important to include nonhypnotic comparison subjects who are administered the same misinformation.

The findings of studies which have compared hypnotic and nonhypnotic subjects in this regard are mixed. Generally, in the studies which have found differences

between hypnotic and nonhypnotic subjects in susceptibility to misleading questions only high and/or moderate hypnotizables were used or hypnotizability was confounded with treatments. For example, Putman (1979) showed subjects a videotape of a car accident and then administered a series of nonleading and misleading questions. He found that hypnotic subjects were more likely to endorse the content of the misleading questions than were nonhypnotic subjects. Similarly, Zelig and Beidleman (1981) and Sanders and Simmons (1983) found that hypnotics endorsed more misleading questions about a videotaped event than did nonhypnotics.

Yuille and McEwan (1985) argued that the high ratio of leading to nonleading questions in these previous studies may have mediated the effect for hypnosis. One week after watching a videotape of a simulated crime they administered 5 leading questions to moderate and high susceptible subject-eyewitnesses. The five misleading questions were interspersed among 42 nonleading questions. Hypnotic and nonhypnotic witnesses failed to differ significantly in the extent to which they accepted misleading information. Across conditions the average juror was susceptible to 2 of the 5 misleading suggestions ($M = 39\%$).

More recent laboratory studies that included low hypnotizables and that compared hypnotic and nonhypnotic subjects found nonsignificant differences in the extent to which hypnotic and nonhypnotic subjects were misled (e.g., Barnier & McConkey, 1992; McConkey, Labelle, Bibb, & Bryant, 1990; Spanos, Gwynn, Comer et al., 1989). Barnier and McConkey (1990) and McConkey et al. (1990) showed subjects a videotape of a simulated purse snatching and afterwards administered a series of

misleading suggestions. They failed to find significant differences in pseudomemory reporting between hypnotic and nonhypnotic subjects.

Spanos, Gwynn, Comer et al. (1989) also found nonsignificant differences between hypnotic and nonhypnotic subjects in a study in which the main focus was to mislead low and high hypnotizable subjects. They found that hypnotics and nonhypnotics endorsed equivalent numbers of misattributions about the offender during an initial interview and under circumstances which simulated a stringent cross-examination or circumstances which gave subjects a legitimate rationale for disavowing their misattributions.

Hypnotizability. Findings from studies that examined the impact of hypnotizability on the extent to which hypnotic and nonhypnotic subjects resisted misleading suggestions are equivocal. Some studies found that hypnotizability influenced the extent to which both hypnotics and nonhypnotics endorsed misleading suggestions (Barnier & McConkey, 1992; McConkey, Labelle, Bibb, & Bryant, 1990; Spanos, Gwynn, Comer et al., 1989). Spanos, Gwynn, Comer et al. (1989) found that more high than low hypnotizables reported falsely suggested misattributions about the offender and Barnier & McConkey (1992) and McConkey et al. (1990) found that highs were more likely to report falsely suggested details about the offender's facial characteristics, the offender's clothing and the offender's actions than were lows.

Still other studies found that hypnotizability was unrelated to the pseudomemory reports of nonhypnotics but related to pseudomemory reporting in hypnotics (Sheehan, Statham, & Jamieson, 1991a; Sheehan, Statham, & Jamieson, 1991b). In these studies

highly hypnotizable hypnotic subjects were most likely to endorse misleading suggestions.

Taken together these studies suggest that hypnotizability, may under some circumstances, mediate the extent to which subjects endorse misleading suggestions. Nonetheless, as will be briefly discussed the effects of hypnotizability may themselves be mediated by or overridden by various contextual variables.

Contextual influences. Several studies indicate that subjects can differentiate suggestion induced pseudomemories from actual memories (Levitt, 1990; Spanos & MacLean, 1985) and other studies suggest that increased recall may simply reflect a reporting bias (Spanos, Gwynn, Comer et al., 1989). According to Spanos, these studies suggest that subjects are able to distinguish false memories from accurate ones and he suggests that the potential for 'trials by fantasy' (Perry & Laurence, 1989) are no greater when considering hypnotic testimony than nonhypnotic testimony.

Much of the recent research has focussed on examining the conditions which influence witnesses' willingness to endorse misleading information. Several studies now indicate that various contextual variables such as, the type of recall test (Sheehan, Statham, & Jamieson, 1991a), experimental demands to maintain the role of a good hypnotic subject (Spanos & MacLean, 1985), and experimental contexts (Barnier & McConkey, 1992; McCann & Sheehan, 1987; McConkey et al., 1990) influence pseudomemory reports. Nonetheless only one study has assessed pseudomemory reporting in a context that remotely resembled a courtroom situation. Spanos, Gwynn, Comer et al. (1989) assessed the extent to which high hypnotizables

disavowed earlier misattributions about the offender under conditions of stringent cross-examination and under conditions which legitimized disavowal. Disavowal rates were lowest when highs received the stringent cross-examination and highest when they were given a rationale that inferred that their misattributions had been unintentional.

In the present study two misleading questions were administered during the interrogation phase of the study (Session 2) and the frequency of pseudomemory reporting was examined in the context of a mock courtroom setting. Also assessed was the extent to which witnesses disavowed their misbeliefs when questioned about them repeatedly during cross-examination.

Pretrial Preparation

Lawyers routinely prepare their witnesses about what to expect in terms of courtroom procedure, potential questions, and the demeanour of opposing council. The purpose of preparing witnesses is to bolster their confidence and increase the likelihood that their testimony will be perceived as credible. In a study by Lindsay et al. (1981) prosecuting lawyers were given unlimited time to meet with eyewitnesses to a staged theft before the mock courtroom testimonies. Pretrial exposure time ranged from between 3 to 25 minutes. Lawyers playing the role of Defense attorney reported that they found it extremely difficult to discredit the eyewitness. Wells did not include an unprepared control group nor did they monitor the pretrial interactions between witnesses and lawyers. Nonetheless the lawyers' perceptions suggest that standard briefing instructions may decrease the extent to which a witness may be

effectively cross-examined. Four studies systematically examined the impact of commonly used preparation techniques on the confidence witnesses held in their recall.

Turtle and Yuille (1989) found that nonhypnotic subjects who were given time to read their previous recall statements were more confident on subsequent recall trials than were subjects who did not review their previous statements. In a second study Wells et al. (1981) experimentally manipulated subjects' exposure to a short briefing concerning what to expect from opposing counsel. Subjects were then given time to silently rehearse their responses to expected questions. Subjects who were briefed were more confident in their identifications during cross-examination than were subjects who were not briefed.

Two additional studies compared the effects of preparation strategies on the confidence ratings of hypnotic and nonhypnotic subjects. Spanos, Quigley et al., (1991) assessed the extent to which prepared and unprepared subjects broke down during cross-examination. They administered short pretrial preparation instructions to half of the 60 eyewitnesses who had seen a videotaped simulation of a murder. All subjects were examined and cross-examined by two experimenters who played the roles of Prosecution and Defense attorneys. Prepared and unprepared subjects exhibited equivalent levels of certainty in their identifications of the murderer during direct-examination. However, subjects who received the pretrial preparation instructions maintained their ratings of certainty during cross-examination, whereas, unprepared subjects reduced their certainty ratings to such an extent that they had

significantly lower certainty ratings during cross-examination than prepared subjects. Moreover, collapsed across direct- and cross-examination hypnotic subjects who were prepared were substantially more confident in their identifications than hypnotic subjects who were not prepared. Preparation instructions did not influence the certainty ratings of nonhypnotic subjects.

Sanders et al. (1989) compared the testimonies of hypnotic and nonhypnotic witnesses who were given time to review their earlier statements to control witnesses who were not given the opportunity to review their statements. They found that lawyers rated briefed witnesses as more credible, but no more confident or consistent than unbriefed witnesses. Hypnosis failed to interact with the briefing factor; hypnotic and nonhypnotic subjects were equally likely to benefit from the briefing.

Taken together, these findings suggest that pretrial preparation instructions may increase the confidence displayed by witnesses during their courtroom testimonies. Moreover, one study suggests that preparation instructions may be more effective in this regard when the witnesses have been previously hypnotized.

The Present Study

The use of hypnosis in forensic contexts is highly controversial. Several investigators argue that hypnosis facilitates inaccurate identifications, bolsters witnesses' confidence in their identifications, and increases susceptibility to misleading suggestions. To examine these assertions subjects were shown a short videotape of a simulated crime, given one of four recall strategies (hypnotic/nonhypnotic x imagery/no imagery), administered an identification task, and administered a series of

misleading questions concerning the offender.

Another criticism of hypnotic techniques suggests that hypnosis increases witness confidence to such an extent that typical cross-examination strategies are ineffective. According to this hypothesis hypnotic witnesses are immunized against the usually discrediting effects of cross-examination. In order to examine this hypothesis subjects in the first study were examined and cross-examined in a mock courtroom setting. Also examined was the impact of pretrial preparation instructions on eyewitness' confidence in the courtroom and the extent to which subjects broke down during the cross-examination.

EXPERIMENT 1

Method

Subjects

One-hundred twenty subjects (76 females & 44 males) were recruited from a pool of introductory psychology students who had been tested for hypnotizability with the Carleton University Responsiveness to Suggestion Scale (CURSS; Spanos, Radtke, Hodgins, Stam, & Bertrand, 1983). Recruitment was restricted to selecting an equal number of low, moderate and highly hypnotizable subjects ($n = 40$). Students were contacted by phone and were asked to participate in a multi-session experiment that involved watching a videotape and answering questions about its content. All subjects received experimental credits for their participation.

Design

The experiment was designed as a $2 \times 2 \times 2$ completely crossed factorial with

hypnosis (hypnotic induction/none), imagery instructions (present/absent) and pretrial preparation instructions (present/absent) as the between subjects factors. Subject assignment to conditions was randomized with the restriction that low, moderate and high hypnotizables were equally distributed among the conditions.

Approximately one-week after watching a videotape of a simulated murder half of the subjects received an hypnotic induction procedure and the remainder did not. Within these conditions half of the subjects were given imagery instructions which guided them to 'zoom in' on specific aspects of the offender. The remaining subjects received instructions to 'think about' the murder and the offender. Completely crossed, these two factors comprised four recall conditions: (a) hypnotic imagery, (b) hypnosis alone, (c) imagery alone, and (d) control.

At least one week after witnessing the murder subjects returned to the laboratory to testify in a mock courtroom. Before testifying half of the subjects within each of the four recall conditions were given a pretrial confidence-boosting procedure. The remaining subjects were not prepared before testifying.

Procedure

Session 1

The Session 1 procedure was administered to small groups of 1 to 5 individuals. As participants arrived at the laboratory they were given an Informed Consent Form. When all subjects were assembled they were shown a 60 second videotape of a simulated murder. In order to facilitate a natural response to the murder subjects were not told about the content of the videotape.

After watching the videotape subjects were engaged in a written distracter task. They were asked to "write in as much detail as possible everything they would be feeling, thinking and doing after seeing the murder." Subjects then described everything they could remember about the offender and everything they could remember about what the offender was wearing. These three written tasks were accompanied by audiotaped instructions (see Appendix A). Subjects were then scheduled for the second session and escorted one by one to a second experimenter.

Subjects then tried to identify the murderer from a series of six mugshots that were presented simultaneously. Subjects who chose a mugshot rated how confident they were that they correctly identified the offender. Subjects who did not choose a mugshot rated how confident they were that the offender was not present in the lineup (see Appendix B). Subjects who chose more than one mugshot were encouraged to pare their selections down to only one. They were then asked if they believed that the offender was present in the mugshots they chose, and if so, which individual was the offender. These subjects then answered the relevant confidence questionnaire. Subjects were then dismissed and given a reminder call the evening before their next session.

Simulated murder. The simulation was 60 seconds long and showed the offender slouched down in his car in a parking lot. The victim then entered the scene, fumbled with his car keys and attempted to open his own car door. At this point, the offender got out of his car, walked up behind the victim and shot him in the back of the neck at point blank range. The offender then looked around for about 12 seconds,

turned back toward his car, got into his car, and sped away. The videotape then showed a blurred and indiscernible view of the offender's licence plate and focused on the bloodied victim for the remainder of the tape.

The simulated murder included several factors that have been shown to influence the accuracy of eyewitness identifications. For example, as is the case in many actual crimes the offender was disguised; the offender was wearing glasses and a baseball cap that was pulled down over his forehead. Subjects also had an excellent view of the murderer's revolver as it was drawn, pointed towards the victim's head and fired. Both the presence of a weapon (Steblay, 1992) and offender disguise (e.g., Cutler et al., 1987) have been shown to decrease the accuracy of eyewitness identifications.

Photographic lineup. The lineup consisted of six middle aged Caucasian males. All six men had a medium build, were average in weight, and had dark greying hair. The mugshot displays of each individual included two photos. Both photos showed the man from mid-chest upwards; the first was a frontal perspective and the second a profile. Each individual was holding a number in front of his chest.

As is the case in actual police line-ups all six mugshots were presented simultaneously. However, the order in which the mugshots were displayed was randomized at both the first and second sessions with the restriction that the murderer did not occupy either the first or last ordinal positions. That is, the offender's photo occupied one of positions two through five but never occupied ordinal positions one or six.

Session 2

The second session followed Session 1 by at least one week and subjects were run in groups of 1 to 5 by the same experimenter who showed subjects the murder video. On arrival at the lab, subjects were administered an Informed Consent Form.. Groups of subjects were randomly assigned to one of the four treatment conditions (hypnotic imagery, hypnosis alone, imagery alone, & control).

In all conditions subjects were given expectancy enhancing instructions. Subjects were told their respective recall strategy had been effective in enhancing eyewitness recall in actual criminal cases. Subjects listened to the audiotaped strategies and simultaneously tried to recall details of the offender and the murder scenario. After the recall phase subjects were again taken to the second experimenter (the same experimenter from Session 1). Subjects then tried to choose the murderer from the same photographic lineup of 5 foils and the offender. Subjects then rated their confidence in their identifications. Subjects who did not choose a mugshot rated how confident they were that the offender was not present in the lineup.

Subjects were then administered two misleading questions about the offender's footwear and the colour of the offender's baseball cap (see Appendix C). The experimenter suggested that the offender was wearing a red cap and cowboy boots. In fact, the offender was wearing a blue cap and the offenders footwear was never shown in the video. Subjects were given two misleading prompts for each detail. For example, subjects were asked if they could remember the offenders 'red cap'. Subjects who responded negatively were asked to think carefully (or zoom in on)

about the offenders hat and again asked if they could remember the red cap. The questions concerning the offender's footwear followed the same format.

All subjects who chose a mugshot in Session 2 were invited to participate in the third and final experimental session. Those subjects who did not choose a mugshot were debriefed, issued experimental credits, and dismissed.

Hypnotic imagery. Subjects in this condition received the hypnotic induction procedure taken from the CURSS (Spanos et al., 1983) and imagery based instructions modelled after the procedures used by Reiser (1980). The transcripts of the recall instructions are given in Appendix D. The hypnotic induction was approximately 5 minutes long and included repeated suggestions for progressive relaxation, drowsiness and deep sleep.

After listening to the hypnotic induction procedure subjects were informed that their memory was like a videotape recorder in that everything they saw was stored in memory and they could replay these images on their mental t.v. set. Subjects were also told that they could zoom in on, enlarge, and "freeze frame" the images in their memory. Following recall, but before the wake-up procedure, hypnotic subjects were escorted to the second experimenter who asked the "hypnotized" subject to identify the offender from the identical series of mugshots used in session 1. Subjects were then asked the two leading questions and administered the hypnotic wake-up procedure.

Imagery alone. Subjects in this condition did not receive the hypnotic induction procedure. Instead, subjects were told that the recall procedure was a mnemonic

strategy that has been shown to enhance recall. Subjects heard the identical instructions as the hypnotic imagery group with all references to hypnosis, drowsiness and sleep removed. They then received the identical imagery based instructions as the previous group.

Hypnosis alone. Subjects in this condition received the hypnotic induction procedure but did not receive the imagery instructions. After the hypnotic induction, subjects in this condition were simply asked to 'think about' the murder and the murderer. All imagery based phrases were removed. After recall, but before the wake-up procedure subjects were taken to the second experimenter who administered the identification task, the leading questions, and the hypnotic wake-up procedure.

Control. The control subjects were not given the hypnotic induction procedure or the imagery instructions. Instead, subjects were told that repeated attempts to recall previous events have been shown to increase the recall of actual eyewitnesses. Subjects were then administered the control recall strategy. That is, they were asked to think about the murder and the murderer.

Session 3

Only participants who chose a mugshot in Session 2 were eligible to participate in Session 3. These subjects testified about their line-up identifications in a mock courtroom setting. Two new experimenters who were unknown to the subjects conducted this third session. The two experimenters involved in this phase of the experiment randomly determined who would play the role of Prosecutor and Defense attorney on a subject-by-subject basis with the restriction that 50% of the time each

experimenter played each role.

Subjects were run through this session individually and on arrival at the laboratory signed an Informed Consent which informed subjects that their testimonies would be videotaped. All subjects were then given information about substantive courtroom procedure. Specifically, subjects were told that they would be sworn in, that the experimenter playing the role of Prosecutor would examine them, that the experimenter playing the role of Defense attorney would cross-examine them, and that their courtroom testimonies would be videotaped.

Half of the subjects were then given instructions designed to enhance their performance on the stand. The Prosecutor administered brief instructions designed to bolster witness confidence (see Appendix E). The remaining subjects served as controls and did not receive any preparation.

Each witness was then examined by the Prosecuting attorney and cross-examined by the Defense attorney (Appendix F). Subjects were then debriefed, issued experimental credits and dismissed.

Pre-trial preparation instructions. In Session 3 half of the subjects were prepared by the Prosecutor before testifying in the mock courtroom setting. These preparation instructions were based on common recommendations given in trial strategy texts (e.g., Keeton, 1983; Levy, 1987). Subjects also practiced responding to mock questions posed by the Prosecutor. The entire preparation procedure took between 15-20 minutes.

The preparation instructions were designed to bolster the confidence of each

subject-eyewitness and improve their self-presentation on the stand. For example, subjects were encouraged to speak in complete sentences, to provide as much detail as possible, and to speak without hesitation or pause. They were also told that the Defense attorney would try to intimidate them and manipulate their responses in favour of the case for the Defense. Subjects were told that they should remain calm and respond politely but accurately to the Defense attorney's questions.

Prepared subjects also participated in two short practice periods. First, they practiced responding to mock Prosecution questions and then they practiced responding to mock Defense questions. The Prosecutor gave subjects feedback after each of their responses. For example, subjects who gave only limited details about the event were encouraged to provide more complete answers and subjects who spoke with hesitation or pause were told to provide more free flowing answers.

Dependent Measures

Hypnotizability. Hypnotizability was assessed with the CURSS (Spanos, Radtke, Hodgins, Stam, & Bertrand, 1983); a standardized audiotaped hypnotizability assessment procedure that was designed for group administration. The CURSS includes a five minute hypnotic induction procedure that is followed by seven suggestions for ideo-motor, motor-challenge, visual and auditory responding and a suggestion for amnesia. Subjects receive a series of scores representing their objective, subjective and involuntary responses. The objective score (CURSS:O) reflects the number of suggestions to which subjects exhibit the appropriate behavioral responses. The CURSS:O score ranges from 0 to 7 and is used to classify subjects as

low (0-2), moderate (3-4) or high (5-7) susceptibles.

Subjective scores reflect the extent to which subjects report being subjectively involved in their behavioral responses (CURSS:S). Subjective scores range from 0 (did not respond subjectively) to 21 (felt the corresponding subjective response to all 7 suggestions). Objective involuntariness scores (CURSS:OI; range 0-7) are an index of the extent to which subjects felt that their behavioral responses occurred involuntarily.

CURSS scores exhibit high test-retest reliability over short intervals ($r_s > .79$) and moderate test-retest reliability over intervals as long as 10 years ($r_s > .53$; Spanos, Liddy, & Baxter, 1992).

Identification accuracy. At Sessions 1 and 2 subjects correctly identified the offender (scored 1), incorrectly identified the offender (scored -1) or rejected the lineup (scored 0). Each subject had two scores representing their mugshot selections at Session 1 and Session 2.

Identification confidence. Subjects who chose a mugshot rated how confident they were that they had correctly identified the offender. Subjects who did not choose a mugshot rated how confident they were that the offender was not present in the lineup. Confidence ratings were assessed on a 7-point scale ranging from not at all confident (0) to very confident (6).

Identification certainty. Subjects' videotaped responses to the direct- and cross-examination questions (question #1 & #2 respectively) concerning their certainty in their identification of the defendant as the murderer were coded by the researchers

who were blind to the subject condition. Ratings were made on a 5-point scales ranging from very certain (5) through somewhat certain (3) to not at all certain (1).

Breakdown during cross-examination. An index of the extent to which subjects broke down during cross-examination was derived from subject's verbal responses to two of the cross-examination questions. During cross-examination subjects were questioned concerning their identification of the offender and the clarity of their memory. Subjects who conceded that it was possible that they may have misidentified the offender were given a score of 0, subjects who indicated that it was possible but unlikely that they misidentified the offender were scored as 1, and subjects who indicated that it was virtually impossible that they misidentified the offender were scored as 2.

Subject's responses to the question concerning their memory of the event were scored similarly. Subjects were classified as those who indicated that their memory of the event was vague (scored 0), those who revealed that their memory was somewhat clear/vague (scored 1), and those who indicated that their memory of the event was clear (scored 2).

Misleading questions. Recall that at the end of Session 2 subjects were asked two misleading questions concerning the offenders footwear and the colour of the offenders cap. For each of these questions subjects who endorsed the content of the leading question on the first prompt were given a score 2 indicating that they were very susceptible to the suggestion, subjects who endorsed a leading question on the second prompt were given a score of 1 indicating that they were somewhat susceptible

to the suggestion and subjects who did not endorse the content of a leading question were given a score of 0 indicating that they were resistant to the misleading suggestion. There were two scores per subject representing the extent to which subjects endorsed the content of the two misleading questions.

Courtroom pseudomemories. The extent to which subjects integrated misleading information into their testimonies was examined in terms of frequency data. Subjects who testified, during the direct examination, that the offender was wearing a red baseball cap or cowboy boots were categorized into those who, (a) maintained their incorrect beliefs under cross-examination, or (b) subjects who disavowed their incorrect beliefs under cross-examination.

Results

Attribute Measures

The three indices of hypnotizability (CURSS:O, S, OI) were analyzed with a 2 x 2 x 2 x 2 (hypnosis x imagery x preparation x gender) Multivariate Analysis of Variance (MANOVA; see Table 1). None of the multivariate main effects or interactions reached significance indicating equivalence of these measures across conditions.

A one-way MANOVA with these same scores entered as the dependent variables and type of identification at session 1 (accurate/false) as the independent variable indicated no significant differences between the two groups, $F(3,115) = .31$, $p = .818$. A second one-way ANOVA conducted on subjects Session 1 confidence scores with hypnotizability level (low, moderate & high) as the independent variable was

Table 1.MANOVA Summary Table for Hypnotizability Premeasures.

Source	Pillais	Apx.	Sig
Im x Hyp x Prep x Gen	.01154	.39696	.755
Hyp x Prep x x Gen	.03807	1.34568	.264
Im x Prep x Gen	.00257	.08751	.967
Im x Prep x Hyp	.02764	.96635	.412
Im by Hyp by Gen	.00191	.06514	.978
Prep by Gen	.02738	.95715	.416
Prep by Hyp	.04289	1.52371	.213
Hyp by Gen	.04305	1.52959	.211
Im by Prep	.00668	.22869	.876
Im by Gen	.03566	1.25711	.293
Im by Hyp	.01221	.42036	.739
Preparation	.02123	.73748	.532
Gender	.06867	2.50674	.063
Hypnosis	.05553	1.99887	.119
Imagery	.02283	.79443	.500

Note. (3,102) degrees of freedom.

also nonsignificant, $F(2,117) = .16$, $p = .854$.

Eyewitness Identifications

Recall that subjects tried to identify the offender from a photographic lineup on two separate occasions; first, after watching the simulated shooting and, second, after receiving their recall strategies. All but one subject chose a mugshot after undergoing the recall strategies. This subject was eliminated from future analyses. The remaining subjects either misidentified the offender (scored 0) or correctly identified the offender (scored 1).

Identification scores were analyzed with a $2 \times 2 \times 2$ (hypnosis $\times$ imagery $\times$ interval) mixed Analysis of Variance (ANOVA; see Table 2). None of the main effects or interactions reached significance. Overall, 83.33% of the subjects misidentified the offender after watching the video and 84.17% misidentified the offender after receiving their recall strategies (see Table 3).

Identification Confidence

Interrogation. At each interval subjects rated the confidence they held in their identifications on a 7-pt scale ranging from 0 (not at confident) to 6 (very confident). Confidence ratings taken at the second interval (after the recall strategies) were analyzed separately for subjects who misidentified the offender and subjects who correctly identified the offender using 2 (hypnosis/no hypnosis) $\times$ 2 (imagery/no imagery) between groups ANOVAs (see Tables 4 & 5).

Hypnotic subjects, $M = 4.19$, $sd = 1.22$, tended to be more confident in their misidentifications than nonhypnotic subjects, $M = 3.72$, $sd = 1.28$; $F(1,97) = 3.89$.

Table 2.ANOVA Summary Table for Type of Lineup Identification.

Source	Sum Squares	DF	Mean Square	F	Sig of F.
Hypnosis	.50	1	.50	.54	.466
Imagery	.94	1	.94	1.00	.320
Hyp by Im	1.84	1	1.84	1.95	.165
Ss W Cells	109.22	116	.94		
Interval	.04	1	.04	.24	.625
Hyp by Interval	.20	1	.20	1.30	.256
Im by Interval	.10	1	.10	.67	.416
Im by Hyp by Interval	.00	1	.00	.03	.871
Residual	18.15	116	.16		

Table 3.**Percentage of Subjects Who Misidentified the Offender Across Lineup Intervals.**

Condition	Interval 1		Interval 2	
	%	<i>f</i>	%	<i>f</i>
Nonhypnotic				
No Imagery	80.00	24	83.33	25
Imagery	76.67	23	83.33	25
Hypnotic				
No Imagery	80.00	24	76.67	23
Imagery	93.33	28	93.33	28

Note. *n* = 30.

Table 4.**ANOVA Summary Table on Identification Confidence for Witnesses Who****Misidentified the Offender.**

Source	Sum Squares	DF	Mean Square	F	Sig of F.
Hypnosis	5.90	1	5.90	3.89	.052
Imagery	1.72	1	1.72	1.13	.290
Hyp by Imag	.00	1	.00	.00	.991
Ss W Cells	147.29	97	1.52		
Total	154.91	100	1.55		

Note. N = 100.

Table 5.

ANOVA Summary Table on Identification Confidence for Witnesses Who Accurately Identified the Offender.

Source	Sum Squares	DF	Mean Square	F	Sig of F.
Hypnosis	5.95	1	5.95	2.92	.108
Imagery	1.50	1	1.50	.74	.403
Hyp by Imag	.47	1	.47	.23	.638
Ss W Cells	30.50	15	2.03		
Total	38.42	18	2.13		

Note. N = 19.

$p = .052$. The main effect of imagery and the two-way interaction between hypnosis and imagery were nonsignificant.

None of the effects reached significance for subjects who correctly identified the offender suggesting that these subjects showed equivalent levels of confidence in their identifications regardless of the recall strategy that they had received (see Table 5). However, power was relatively low in this analysis. Only 19 subjects correctly identified the offender. However, the means tend to indicate the same pattern of findings for subjects who correctly identified the offender as for subjects who misidentified the offender. Hypnotic subjects had higher mean ratings of confidence in their accurate identifications, $M = 4.25$, $sd = 1.48$, than did nonhypnotic subjects, $M = 3.42$, $sd = 1.16$; $F(1,15) = 2.92$, $p = .108$.

Two one-way ANOVAs on Session 1 and Session 2 confidence scores by identification type (accurate/false) were nonsignificant indicating that subjects who accurately identified the offender were no more confident in their identifications than were subjects who misidentified the offender either after watching the video, $F(1,117) = 1.13$, $p = .204$, or after receiving their recall strategies, $F(1,117) = .493$, $p = .484$.

Courtroom. Independent judges rated subjects' in-court certainty in their identification of the defendant twice; first during the examination, and second, during the cross-examination. Certainty ratings ranged from 1 (not at all certain) through 3 (somewhat certain) to 5 (very certain). Interrater reliabilities were adequate for ratings at direct-, $r(119) = .79$, and cross-examination, $r(119) = .84$.

Certainty scores were analyzed with a 2 x 2 x 2 x 2 (hypnosis x imagery x preparation x interval) mixed ANOVA (see Table 6). The main effects of preparation, $F(1,112) = 4.91, p < .05$, and interval, $F(1,112) = 4.00, p < .05$, were significant, but were qualified by the two-way preparation by interval interaction, $F(1,112) = 5.76, p < .05$. Simple main effects analyses indicated that prepared and unprepared subjects did not differ in their certainty during the direct-examination but that prepared subjects, $M = 4.65, sd = .61$, were more certain about their identification than unprepared subjects, $M = 4.27, sd = .90$, when cross-examined, $F(1,112) = 8.15, p < .01$. Prepared subjects maintained their initial level of certainty, $M = 4.63, sd = .64$, across examination intervals while the certainty ratings of unprepared subjects were significantly reduced from examination, $M = 4.45, sd = .72$, to cross-examination, $F(1,112) = 10.10, p < .01$.

Breakdown during cross-examination. Related to the issue of witness identification certainty is the extent to which witnesses broke down during cross-examination. Two judges assessed breakdown by coding witness responses to two of the cross-examination questions: (a) whether witnesses could have been mistaken in identifying the offender and (b) whether their memory for the crime was clear. Interrater reliabilities were adequate for both the mistake, $r(119) = .83$, and memory questions, $r(119) = .88$.

A 2 x 2 x 2 (hypnosis x imagery x preparation) multivariate ANOVA with judged ratings of breakdown as the dependent variables revealed a highly significant main effect of preparation, $F(2,110) = 14.21, p < .001$ (see Table 7). Unprepared

Table 6.**ANOVA Summary Table on Identification Certainty During Direct- and Cross-examination.**

Source	Sum Squares	DF	Mean Square	F	Sig of F.
Preparation	4.82	1	4.82	4.91	.029
Hypnosis	1.67	1	1.67	1.70	.195
Imagery	.02	1	.02	.02	.897
Prep x Hyp	.42	1	.42	.43	.516
Prep x Im	1.07	1	1.07	1.09	.299
Hyp x Im	.02	1	.02	.02	.897
Prep x Hyp x Im	1.65	1	1.65	1.79	.184
Ss W Cells	109.93	112	.98		
Interval	.42	1	.42	4.00	.048
Prep x Int	.60	1	.60	5.76	.018
Hyp x Int	.15	1	.15	1.44	.233
Im x Int	.00	1	.00	.00	1.00
Prep x Hyp x Int	.07	1	.07	.64	.425
Prep x Im x Int	.02	1	.02	.16	.650
Hyp x Im x Int	.07	1	.07	.64	.783
Prep x Hyp x by Im by Int	.01	1	.01	.16	.690
Residual	11.67	112	.10		

Table 7.MANOVA Summary Table for Judged Ratings of Mistaken Identification and Clarity of Memory.

Source	Pillais	Apx. F	Sig			
<u>Multivariate F-tests with (2,100) D. F.</u>						
Prep by Hyp x Im	.002	.10	.904			
Hyp by Im:	.034	1.92	.152			
Prep by Im	.049	2.83	.063			
Prep by Hyp	.026	1.48	.232			
Imagery	.021	1.18	.311			
Hypnosis	.007	.38	.685			
Preparation	.205	14.21	.000			
Variable	SS	Error SS	MS	Error MS	F	Sig
<u>Univariate F-tests for Preparation with (1,56) D. F.</u>						
Mistaken ID	7.95	69.96	7.95	.630	12.61	.001
Vague memory	14.52	56.36	14.52	.508	28.59	.000

witnesses were less resistant to withstanding the discrediting effects of the cross-examination than were prepared witnesses. Unprepared witnesses were both more likely to admit that they may have been mistaken in their identification, $\underline{M} = .98$, $\underline{sd} = .83$, $\underline{F}(1,56) = 12.61$, $p < .001$, and that their memory for the event in question was vague, $\underline{M} = 1.08$, $\underline{sd} = .88$, $\underline{F}(1,56) = 28.59$, $p < .001$, than were prepared witnesses; mistake: $\underline{M} = 1.50$, $\underline{sd} = .73$, memory: $\underline{M} = 1.78$, $\underline{sd} = .56$.

Experimenter effects. Recall that two experimenters decided randomly who would play the role of Prosecutor with the restriction that 50% of the time each experimenter played the role. The judged ratings of certainty (direct- & cross) and breakdown (mistaken id & clarity of memory) were analyzed with a one-way MANOVA with Prosecutor (Experimenter 1/Experimenter 2) as the between groups variable. The multivariate main effect was nonsignificant, $\underline{F}(4,111) = .156$, $p = .96$.

Misleading Questions

Interrogation. At the end of session 2 subjects were misled concerning two aspects of the offenders clothing. The experimenter suggested to each subject that the offender was wearing a red ball cap and cowboy boots. In fact, the offender was wearing a blue and white ball cap and the offender's footwear was never shown in the video. A total score reflecting the number of suggestions subjects endorsed (i.e., none, one or both scored 0, 1 & 2 respectively) was computed. A 2 x 2 (hypnosis x imagery) ANOVA showed null effects for the two factors and their interaction (see Table 8). At least 30% of subjects within each recall condition endorsed the content

Table 8.

**ANOVA Summary Table for the Number of Misleading Questions Subjects Endorsed @
Session 2.**

Source	Sum Squares	DF	Mean Square	F	Sig of F.
Hypnosis	.21	1	.21	.60	.440
Imagery	.21	1	.21	.60	.440
Hyp x Im	.01	1	.01	.02	.877
Ss W Cells	40.17	116	.35		
Total	40.60	119			

of at least one of the misleading questions (hypnotic imagery, 33%; hypnosis alone, 36.7%; imagery alone, 30%; control, 36.7%).

To assess the degree of resistance subjects displayed to the misleading information those who endorsed the content of a misleading question on the first prompt were given a score of 2, subjects who endorsed the content of a misleading question on the second prompt were scored as 1 and subjects who resisted the suggestion on both prompts were scored as 0. Two 2 x 2 ANOVAs with hypnosis and imagery entered as the between groups variables were used to analyze resistance to each of the misleading questions (see Tables 9 & 10). Both analyses revealed nonsignificant effects for both factors and their interaction.

Courtroom. During the direct-examination witnesses were asked to describe in as much detail as possible what the offender was wearing. The number of incorrect suggested details (0, 1 or 2) subjects included in their testimony was computed. A 2 x 2 x 2 (preparation x hypnosis x imagery) ANOVA showed nonsignificant effects for all variables and their interactions (see Table 11). Across conditions subjects did not differ in the frequency with which they testified about the misleading details.

Overall, one-quarter ($n = 31$) of the witnesses included in their testimony at least one of the suggested details. These witnesses were categorized into, (a) those who maintained their beliefs during cross-examination, and (b) those who disavowed their beliefs in the falsely suggested details during cross-examination.

Unprepared subjects were more likely to disavow their false beliefs than were prepared subjects, $\chi^2(1) = 5.24$, $p < .05$. Only 31% of the unprepared subjects

Table 9.

ANOVA Summary Table for the Degree of Resistance Witnesses showed to question 1.

Source	Sum Squares	DF	Mean Square	F	Sig of F.
Hypnosis	.08	1	.08	.73	.394
Imagery	.01	1	.01	.08	.776
Hyp x Im	.01	1	.01	.08	.776
Ss W Cells	11.90	116	.10		
Total	11.99	119	.10		

Table 10.

ANOVA Summary Table for the Degree of Resistance Witnesses Showed to Question
2.

Source	Sum Squares	DF	Mean Square	F	Sig of F.
Hypnosis	.07	1	.07	.10	.754
Imagery	.41	1	.41	.54	.466
Hyp x Im	.67	1	.67	.89	.349
Ss W Cells	88.43	116	.76		
Total	89.59	119	.75		

Table 11.ANOVA Summary Table for the Number of Misleading Questions WitnessesEndorsed During Direct-examination.

Source	Sum Squares	DF	Mean Square	F	Sig of F.
Preparation	.67	1	.67	1.83	.179
Hypnosis	.41	1	.41	1.11	.295
Imagery	1.41	1	1.41	3.82	.053
Prep x Hyp	.08	1	.08	.20	.653
Prep x Im	.68	1	.68	1.83	.179
Hyp x Im	1.01	1	1.01	2.73	.101
Prep x Hyp x Im	1.41	1	1.41	3.82	.053
Ss W Cells	41.33	112	.37		

maintained their false beliefs during cross-examination, whereas, 72% of the prepared subjects maintained their false beliefs.

Other Chi square analyses indicated that hypnosis and imagery did not influence the likelihood with which witnesses disavowed their false beliefs when cross-examined about them.

Correlations

Pearson correlations were computed between subjects objective and subjective hypnotizability scores and all of the other dependent measures (see Table 12).

For the nonhypnotic subjects hypnotizability scores were not significantly correlated with any of the interrogation or courtroom measurements (all r s < .30). However, for hypnotic subjects, five of the six correlations between subjective and objective-involuntariness hypnotizability scores and interrogation and courtroom confidence were significant (r s ranged from .25 - .34). Hypnotizability was also correlated with the extent to which hypnotic subjects disavowed their false beliefs and the extent to which the clarity of their memories. High hypnotizables were less likely to disavow their false beliefs but were more likely to maintain that their memory for the crime was clear than were low hypnotizables.

For both hypnotic and nonhypnotic subjects' interrogation confidence was correlated with their direct- and cross-examination certainty. In turn, courtroom certainty was moderately correlated with the extent to which subjects conceded to the notion that they may have mistakenly identified the offender and that their memory for the crime was unclear (range .49 - .77).

Table 12.

Intercorrelations Between Hypnotizability and the Remaining Dependent Measures for Hypnotics and Nonhypnotics.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. O	-	.77**	.72**	-.09	-.20	-.18	.01	.01	.06	.20	-.15	-.16	-.07
2. S	.72**	-	.76**	-.04	-.13	-.14	.09	.14	-.01	.18	.27	-.20	-.05
3. OI	.72**	.87**	-	-.10	-.16	-.18	.16	.15	.07	.24	.19	-.16	-.05
4. Confid	.17	.33**	.27*	-	.29*	.22*	.18	.09	-.20	-.09	-.39	.19	.20
5. Exam	.10	.29*	.25	.35**	-	.87**	.02	.18	-.08	.03	-.17	.49**	.72**
6. Cross	.09	.34**	.31*	.30*	.77**	-	.11	.19	.03	.13	-.43	.52**	.77**
7. NumLead	.01	.02	.17	.03	.09	.10	-	.70**	.90**	.46**	.00	.01	.04
8. Prpt1	.07	-.08	.03	.01	.01	-.11	.47*	-	.41**	.16	-.14	.15	.23
9. Prpt2	-.03	.04	.16	-.02	.07	.16	.86**	-.01	-	.54**	-.06	-.05	-.06
10. CrtLead	-.04	-.01	.06	.04	.01	.11	.62**	.04	-.73**	-	.05	.10	.06

11. Disavow	-.52*	-.50*	-.53*	-.18	-.19	-.19	-.37	-.22	-.33	-.16	-	-.55	-.57*
12. Memory	.24	.36**	.33*	.15	.53**	.57**	.13	.04	.10	.12	-.39	-	.62*
13. Mistake	.04	.24	.18	.17	.61**	.62**	.08	.02	.05	.11	-.11	.70**	-

Note. * $p < .05$ ** $p < .01$.

Correlation coefficients above the diagonal represent nonhypnotic subjects and correlations below the diagonal represent hypnotic subjects.

O = objective hypnotizability, S = subjective hypnotizability, OI = objective-involuntariness hypnotizability, Conf = session 2 identification confidence, Exam = direct-examination identification certainty, Cross = cross-examination identification certainty, NumLead = number of leading questions endorsed, Prpt1 = resistance to first leading questions, Prpt2 = resistance to second leading question, CrtLead = number of leading questions endorsed during direct-examination, Disavow = maintenance of false details, Memory = clarity of memory, Mistake = mistaken identification.

Pearson correlations were also computed between all of the dependent measures for prepared and unprepared subjects (see Table 13). For unprepared subjects identification confidence at interrogation was correlated with their direct- and cross-examination certainty ratings and the extent to which they broke down during cross-examination. However, for prepared subjects these correlations were nonsignificant. Moreover the number of misleading details that unprepared subjects endorsed during interrogation was only weakly related to the number that they mentioned during direct-examination ($r = .29$) whereas the magnitude of this relation was significantly stronger for the prepared subjects ($r = .71$)

Discussion

In the present study 120 subjects saw a simulated murder and tried to identify the offender from a photographic lineup after a half-hour interval and again after receiving a strategy designed to enhance their recognition at least one week after witnessing the murder. Overall, witnesses were highly inaccurate in their identifications at both intervals. After receiving their respective recall strategies only 15.8% of the witnesses correctly identified the offender and the remainder misidentified the offender (84.2%). In the literature rates of accurate identification have varied, however, most studies have found that both experimental subjects (e.g., Spanos, Quigley et al., 1991) and witnesses to actual crimes (Yuille & McEwan, 1989) often misidentify the target individual.

Importantly, the recall strategies did not differentially influence the accuracy of eyewitness identifications in the present study. Subjects in the four strategy

Table 13.

Intercorrelations Among the Dependent Measures for Prepared and Unprepared Witnesses.

	1	2	3	4	5	6	7	8	9	10
1. Conf	-	.11	.08	-.11	.42**	.36**	.08	-.13	.34**	.35**
2. NumLead	.12	-	.67**	.85**	.02	.08	.29*	-.06	-.02	-.06
3. Prpt1	-.04	.60**	-	.27*	.12	.06	-.37	-.43	.18	.17
4. Prpt2	-.09	.90**	.25	-	-.06	.09	.45**	.11	-.15	-.19
5. Exam	.22	.11	.16	.02	-	.74**	-.05	-.12	.53**	.66**
6. Cross	.18	.14	.15	.06	.98**	-	.09	-.30	.51**	.66**
7. CrtLead	-.02	.71**	.32*	.75**	.04	.07	-	.37	-.01	-.06
8. Disavow	-.53*	-.09	.06	-.31	-.07	-.14	-.24	-	-.18	-.07
9. Memory	.12	.14	.11	.12	.49**	.50**	.15	-.39	-	.66**
10. Mistake	.10	.16	.19	.10	.66**	.68**	.15	-.19	.57**	-

Note. * $p < .05$ ** $p < .01$.

Correlation coefficients above the diagonal represent unprepared subjects and correlations below the diagonal represent prepared subjects.

Conf = Session 2 identification confidence, Exam = direct-examination identification certainty, Cross = cross-examination identification certainty, NumLead = number of leading questions endorsed, Prpt1 = resistance to first leading questions, Prpt2 = resistance to second leading question, CrtLead = number of leading questions endorsed during direct-examination, Disavow = maintenance of false details, Memory = clarity of memory, Mistake = mistaken identification.

conditions (hypnotic imagery, hypnosis alone, imagery alone, & control) showed equivalent rates of misidentification. These findings are consistent with those of other studies (Spanos, Gwynn, Comer et al., 1989; 1991; Yuille & McEwan, 1985) which found that hypnotic and nonhypnotic subjects showed equivalent performance on identification tasks.

Sanders and Simmons (1983) found that hypnotic subjects who received imagery based instructions actually performed worse than others. Although, nonsignificant effects for condition were found in the present study, subjects in the hypnotic imagery condition had the lowest rates of accurate identification. Six percent of the subjects who received the hypnotic imagery recall strategy correctly identified the offender, whereas at least 16% of the subjects within each of the three other conditions correctly identified the offender. These lower accuracy rates can not be attributed to an increased propensity of hypnotic imagery subjects to guess at the identity of the offender because witnesses did not differ in their willingness to choose a mugshot across conditions.

Taken together these findings and those of other studies clearly indicate that hypnosis does not increase the frequency of accurate eyewitness identifications. In fact, there is some evidence, albeit tentative, to suggest that under certain conditions hypnosis may inhibit performance on identification tasks.

Identification Confidence

Interrogation. The findings from research that examined the impact of hypnotic strategies on the confidence witnesses hold in their identifications is mixed. Some

research indicates that hypnotic witnesses are as confident in their accurate identifications as nonhypnotic witnesses and other studies have failed to differentiate between confidence in accurate and inaccurate identifications. Our findings are only suggestive on this issue. Only 19 subjects accurately identified the offender and these were unequally (although not significantly so) distributed among the recall conditions. The low-power analyses of confidence scores for these subjects did not indicate any significant differences between conditions, however, the mean confidence ratings suggested that hypnotic subjects were more confident in their identifications than were nonhypnotic subjects. The remaining 101 witnesses misidentified the offender and our findings support those of several other studies which found that hypnotic subjects were more confident in their misidentifications than were nonhypnotic subjects. Moreover, witnesses who correctly identified the offender were as confident in their identifications as were witnesses who misidentified the offender.

These findings are consistent with those of Spanos et al. (1991) who found that subjects who accurately identified the offender and subjects who misidentified the offender did not differ in their confidence ratings and that taken together hypnotic subjects held higher confidence in their identifications than did nonhypnotic subjects. However Spanos et al. were hesitant to draw strong conclusions from their findings because they confounded treatments and expectancy instructions; hypnotics but not controls were given instructions for enhanced recall. All subjects in the present study were given expectancy instructions for enhanced recall. Our findings suggest that the inflated confidence shown by hypnotics is attributable to some variable other than

expectancy and add further support to the notion that expectancy plays a relatively minor role in predicting the confidence witnesses hold in their identifications. These findings are consistent with a recent study which found nonsignificant differences on recall between groups which received either expectancy enhancing or expectancy diminishing instructions (Lynn, Milano, & Weekes, 1991).

Courtroom. Some researchers argue that hypnotic testimony should be ruled inadmissible because hypnosis causes witnesses to become so overly confident in their recollections that they are immunized against breaking down during cross-examination. These assertions have been made without the support of empirical data (e.g., Diamond, 1980) and/or on the basis of research which has failed to examine the impact of hypnosis in forensically relevant contexts. It is particularly important to examine these assertions because several studies have found that jurors' assessments of guilt were related to their perceptions of nonhypnotic eyewitness confidence (e.g., Wells et al., 1981).

In the present study we found no support for this assertion. Hypnotic and nonhypnotic witnesses were equally confident in their identifications during the direct-examination and showed equivalent levels of erosion in their identification certainty from direct- to cross-examination. Hypnotic and nonhypnotic subjects also did not differ in the extent to which they acknowledged during the cross-examination that they may have made a mistaken identification or in the extent to which they admitted that their memory for the murder was unclear.

The only factor that influenced courtroom identification certainty was pretrial

preparation and this effect was substantial. Pretrial preparation influenced the certainty witnesses held in their in-court identifications and the extent to which subjects withstood the discrediting effects of the cross-examination. Prepared witnesses were more certain than unprepared witnesses about their identifications during the cross-examination. Moreover, unprepared witnesses showed a significant decrease in their certainty ratings from direct- to cross-examination, whereas, prepared witnesses maintained their certainty ratings across these intervals. These findings are consistent with those of three other studies which showed that witnesses rated themselves as more confident in their identifications than unprepared witnesses.

Preparation also influenced the extent to which subjects resisted discreditation during the cross-examination. During the cross-examination unprepared subjects were more likely than prepared subjects to acknowledge that they may have made a mistaken identification and to acknowledge that their memory for the murder was vague. Taken together, these findings indicate that pretrial preparation was quite effective in immunizing witnesses against breaking down during the cross-examination.

Misleading Questions

Interrogation. During the second session 36% of the subjects endorsed the content of at least one of two misleading questions. Neither hypnosis nor imagery influenced the number of misleading details subjects endorsed. These findings are consistent with those of several other studies which have found that nonhypnotic and hypnotic subjects are equally as likely to be misled. In the present study hypnotic subjects

were also as likely as nonhypnotic subjects to resist repeated promptings to endorse the misleading details.

In contrast, some studies found that hypnotic witnesses to simulated crimes were more susceptible to misleading questions than were nonhypnotic subjects (Putman, 1979; Sanders & Simmons, 1983; Zelig & Biedleman, 1981). However in all of these studies subjects were restricted to moderate and high hypnotizables. Moreover, in these studies the hypnotic treatment was typically administered in the same session as the video stimulus. The present study used a methodology which more closely resembled the time lag present in investigating criminal cases. It may be that the minimum of a one-week between the stimulus and treatment and the simulated forensic context eliminated any potential effects of hypnosis.

Hypnotizability was unrelated to the extent to which subjects endorsed the misleading suggestions or to the degree of prompting necessary to implant the false detail. Other studies have also found null effects for hypnotizability in this regard (Register & Kihlstrom, 1988).

Courtroom. We found similar rates of pseudomemory reporting at both the interrogation and testimony phase of the experiment. This finding is consistent with those of a recent study which found that subjects maintained their pseudomemory reports over a 2 week interval (Sheehan, Statham, & Jamieson, 1991b).

Twenty-six percent of the subjects included at least one of the misleading details in their direct-examination testimony. Moreover, hypnosis, imagery and pretrial preparation failed to influence the frequency with which witnesses testified about the

false details during their direct examination. However, pretrial preparation influenced the extent to which subjects who mentioned the misleading material disavowed their memories during cross-examination. Prepared witnesses were significantly less likely to disavow their false memories when cross-examined about them than were unprepared witness.

Hypnotizability

Hypnotizability did not influence the accuracy of hypnotic or nonhypnotic eyewitness identifications in this study. However, for subjects in the hypnotic condition hypnotizability was significantly correlated with their certainty ratings during interrogation, direct, and cross-examination. Highly hypnotizable hypnotic subjects also tended to be more certain in their identifications than were low hypnotizables. Hypnotizability was also negatively correlated with the extent to which subjects broke down during cross-examination. Again, highs tended to resist the discrediting effects of the cross-examination to a greater extent did than lows.

These findings are consistent with those of Spanos et al. (1991) who found that hypnotizability was related to identification confidence for hypnotics but not for nonhypnotics and with Timm (1985) who reported that high hypnotizables were more confident in their identifications than were low hypnotizables. However, other studies have found no relation between hypnotizability and confidence (Sanders & Simmons, 1983) and still others have found the relation for both hypnotic and nonhypnotic subjects (Putnam, 1979; Spanos, Gwynn, Comer et al., 1989).

For both hypnotic and nonhypnotic subjects hypnotizability failed to predict the

extent to which subjects endorsed misleading suggestions or the extent to which they testified about the misleading details. However, for hypnotic subjects hypnotizability scores were negatively correlated with the extent to which they disavowed these false beliefs during cross-examination. Lows were more likely to disavow their beliefs than were highs. Spanos, Gwynn, Comer et al. (1989) also found that hypnotizable subjects administered a stringent cross-examination aimed at discrediting their pseudomemory reports were less likely to disavow their false beliefs than were lows.

Summary

Taken together, these findings clearly indicate that hypnosis failed to enhance the accuracy of eyewitness identifications. In fact, although tentative the data tend to indicate that when used in conjunction with imagery based strategies hypnosis may inhibit accurate identifications.

Hypnotic subjects rated themselves as more confident in their identifications than nonhypnotic subjects during interrogation, however, this confidence differential was not maintained in the context of the courtroom. During direct- and cross-examination hypnotic and nonhypnotic witnesses exhibited equivalent levels of confidence in their identifications. The notion that hypnotics are generally more confident than nonhypnotics has been used as one basis for trying to exclude hypnotic testimony from the courtroom. However this is one of only a few studies which have examined the impact of hypnosis in a contextually relevant setting. The findings from this study and those of two others suggest that hypnotics and nonhypnotics do not differ substantially in the degree of confidence they display in a courtroom context.

Most importantly, this study indicates that witnesses who received brief preparation instructions before testifying in court outperformed unprepared subjects on several different dimensions. Prepared witnesses were less likely to show a reduction in their certainty in their identifications from direct- to cross-examination, less likely to admit that they may have made a mistaken identification, less likely to admit that their memory for the murder was vague, and less likely to disavow false memories for the event than were unprepared witnesses.

EXPERIMENT 2

Introduction

Even though eyewitness testimony may often be highly unreliable the courts have ruled that triers of fact are capable of weighing the value of such testimony (e.g., Neil v. Biggers, 1972) and consequently eyewitness testimony is routinely admitted in North American courts. However, testimony from witnesses who have been hypnotized to recall details of the crime has not been so readily admitted.

Admissibility of Hypnotic Testimony

The admissibility of physical evidence derived from information recalled during hypnotic interviews remains undisputed in North American courts and academic circles (Brown, 1985; Greene, Wilson & Loftus, 1989; Perry & Laurence, 1983; People v. Shirley, 1981). In fact, most forensic investigators caution that hypnotically facilitated recall may be inaccurate and should be corroborated by independent physical evidence (Kroger & Douce, 1980). However, there are numerous instances where hypnotically refreshed recall cannot be corroborated by

independent physical evidence and it is these cases in which the admissibility of hypnotic testimony is often contested.

Between 1968 and 1989, 464 cases involving hypnotic testimony were examined by the American courts (Schefflin & Shapiro, 1989). Morris (1989) recently reviewed the admissibility of hypnotic testimony in American courts. In the United States hypnotically facilitated recall is admissible in all nine federal courts. Two of these courts require that hypnotic techniques follow procedural safeguards such as those posited by Orne (1979). The admissibility of hypnotic testimony in the State Courts is more variable. Twenty-five State courts only admit information that was recalled before the hypnotic procedure, 8 courts admit hypnotic testimony that used adequate safeguards, 6 courts have judged hypnotic testimony admissible, 11 courts have not ruled on the admissibility issue, and only 1 court has ruled hypnotically facilitated recall inadmissible per se (Morris, 1989).

In Canada, there have been relatively few cases in which the courts have ruled on the admissibility of hypnotically enhanced recall. Since 1968 there have been four Canadian cases in which the courts examined the admissibility of hypnotic testimony. Of these four cases, two cases involved defendants who were hypnotized and two cases involved witnesses who were hypnotized (Brown, 1985). These cases probably underestimate the degree to which hypnosis is used with Canadian witnesses because in Canada there is no legislation which states that the court must be informed when a witness or defendant has been hypnotized (Labelle, Lamarche, & Laurence, 1990). On the other hand, if opposing counsel knew that hypnosis had been used to elicit

recall that was central to the case it is unlikely that they would not raise the issue of hypnotic testimony.

Conflicting rulings were given in the two Canadian cases that examined the admissibility of hypnotic testimony given by a witness to a crime. In *Regina v. K.* (1979) two juveniles were involved in a car accident. Both juveniles reported being amnesic for the events leading up to, during, and following the accident. Consequently, both juveniles claimed that they could not remember who was driving the car at the time of the accident. One of the youths agreed to undergo an hypnotic interview to refresh his memory. During the interview the youth apparently remembered that his friend was driving the vehicle when the accident occurred. The Defence posited three main arguments against admitting the hypnotic testimony; (a) memories recalled under hypnosis are unreliable, (b) hypnosis is not accepted as an established scientific procedure, and (c) the hypnotic proceedings were not conducted according to accepted guidelines. Guidelines constitute rules for interview procedures which purportedly minimize the possibility that details remembered during the hypnotic interview will be inadvertently influenced by leading questions or other cues provided by the interrogator (Orne, 1979). The trial judge ruled that the hypnotic interview adequately met procedural guidelines but concurred with the two other arguments posited by the Defence. The Court concluded that the reliability of hypnosis as a memory enhancement technique has not been satisfactorily established, appears to be unreliable, and is subject to numerous confounding variables.

In *People v. Shirley* (1981) the California Supreme Court returned a similar

judgement. The Court ruled that hypnotic testimony be ruled inadmissible per se. The main factor contributing to the ruling was the court's assertion that hypnotic recall is often confabulated, inaccurate, and consequently unreliable. The possibility that the testimony was unreliable was particularly relevant in this case because the hypnotist admitted to presenting leading questions to the witness. A similar judgement was handed down in *State v. Mack* (1980). In this case hypnotic testimony of a witness other than the defendant was ruled inadmissible on the grounds that the hypnotic interrogation was not a recognized scientific procedure. The Court based their decision on the Frye rule (*Frye v. United States*, 1923) which delineated the rules for admitting evidence based on scientific procedures.

The Alberta Court of Queens Bench also returned a conflicting ruling on the admissibility of hypnotic testimony in *Regina v. Zubot* (1981). In this case hypnosis was used to enhance the recollections of a witness who claimed to see a murder from her bathroom window. In making her ruling to admit the testimony the judge pointed out that the procedural safeguards recommended by Orne (1979) had been satisfactorily met. However, it is unclear whether the judge's ruling indicated that triers of fact are entitled to hear hypnotic testimony only when certain procedural guidelines are followed in the hypnotic interview.

In both Canada and the United States, the question of admissibility of hypnotic testimony given by a witness has yet to be examined by the Supreme Courts. However, the ruling in *Regina v. Zubot* is consistent with the majority of American judgements spanning the period from 1968 to 1980. These decisions were largely

based on the ruling in *Harding v. State* (1968). In this case the Maryland Supreme Court ruled that the reliability of the hypnotic recall should go to the weight of the evidence rather than admissibility. The Court, did however, caution that jurors should be instructed to place no more weight on hypnotic testimony than other on types of testimony. The question of whether hypnotic testimony should be admissible only if specific procedural guidelines were followed was addressed in several American cases. For example, in *State v. Hurd* (1981) the New Jersey State Court ruled that the admissibility of hypnotic testimony be based on the degree to which safeguards were followed.

In most of the cases in which the admissibility of hypnotic testimony is contested judges have questioned the effectiveness of hypnosis as a means of enhancing accurate memory. In some cases empirical research was used to justify per se exclusion of hypnotic testimony. In other cases hypnotic testimony was admitted and the trier of fact was given the responsibility of weighing the strength of such testimony. Researchers who argue against the admissibility of hypnotic testimony argue that hypnotic recall: (a) may be unreliable, (b) that hypnotic witnesses become over-confident in their inaccurate memories (Orne, 1979), (c) that hypnosis may result in an 'unshakeable' witness (Diamond, 1980), and (d) that triers of fact may be over impressed by such evidence. The first experiment assessed the validity of the first three criticisms (i.e., questions of reliability) and the second experiment assessed the fourth (i.e., the impact of hypnotic testimony).

Impact of Hypnotic Testimony

One of the major criticisms aimed against admitting hypnotically facilitated recall is the notion that jurors are incapable of adequately weighing the value of such testimony and that jurors may give so much credence to hypnotic testimony that such testimony would be prejudicial (Diamond, 1980; Warner, 1979). So far, there is very little research on this issue. There are a handful of studies which have surveyed people's beliefs about the memory enhancement properties of hypnosis (e.g., Labelle et al. 1990; McConkey & Jupp, 1985) and only two jury simulation studies have evaluated the impact of hypnotic testimony on jurors' perceptions (Greene et al., 1989; Spanos, Gwynn, & Terrade, 1989). In general, these studies indicate that subjects are not overly impressed by hypnotically refreshed recall or by hypnotic testimony.

Labelle et al. (1990) and McConkey and Jupp (1985) found that most subjects believed that hypnosis increases the accuracy of recall and does not lead to increased confabulation. Similarly, Wilson, Greene & Loftus (1986) found that subjects supported the use of forensic hypnosis to enhance eyewitness recall. Nevertheless, McConkey and Jupp (1985) and Wilson et al. (1986) found that subjects reported that they would place less faith rather than more faith in hypnotically facilitated recall. Labelle et al. found that subjects also reported that they believed hypnosis would increase eyewitness confidence.

Greene et al. (1989) had mock jurors rank hypnosis and other techniques (e.g., ballistics testing) with respect to its forensic utility. Both students and jury pool

members rated hypnosis as less effective than blood typing and ballistics testing but more effective than a psychic. In contrast to the surveys reported above these findings suggest that in a criminal context jurors may be somewhat critical of hypnosis rather than unduly impressed by it. It is important to keep in mind that these ratings were made after the trial and were not compared with beliefs about nonhypnotic procedures for enhancing memory. It may be that subjects are, in general, suspicious of any recall enhancement procedure. Nonetheless, these findings suggest that contextual variables may influence subjects beliefs about the effects of hypnosis on memory or at least mediate the magnitude of these beliefs.

Wells (1984) assessed subjects perceptions of hypnotic and nonhypnotic testimony and found that subjects who read a short description of a case involving an eyewitness believed that hypnotically recalled testimony was more accurate than nonhypnotically recalled information even though hypnotics were in fact less accurate than nonhypnotics in this study. On their own, these findings suggest that subjects may in fact place greater emphasis on hypnotic recall than nonhypnotic recall. Unfortunately, the Wells' simulation fell short of mirroring actual courtroom procedure.

Sanders et al. (1989) assessed subjects perceptions of hypnotic and nonhypnotic eyewitness testimony (Sanders et al., 1989). An independent sample of subjects rated the testimonies of eyewitnesses who were exposed to a staged theft. Subjects perceived nonhypnotic witnesses to be as confident, consistent and credible in their testimonies as hypnotic witnesses.

Two mock jury studies also assessed the effects of hypnotic testimony on the

jurors perceptions of the eyewitness and their assessments of guilt in the context of a simulated trial (Greene et al., 1989; Spanos, Gwynn & Terrade, 1989). In these studies juries were also given time to reached deliberated group verdicts.

Greene et al. (1989) showed subjects one of three videotaped trials involving an eyewitness who recalled critical details of the crime: (a) immediately after it took place, (b) spontaneously after a one week interval, or (c) after an hypnotic induction procedure one week after the crime. The procedure was administered to two samples: juries comprised entirely of student volunteers and juries comprised entirely of community members who were qualified for jury duty. For both student and real jurors the pattern of juror verdicts did not differ between the hypnotic and spontaneously recall conditions indicating that jurors did not place more weight on delayed hypnotic testimony than spontaneously recalled nonhypnotic testimony.

At the level of juries, real jurors that tried the cases involving a one-week delay were not influenced by the hypnotic factor whereas student juries returned substantially fewer guilty verdicts in the hypnotic delay condition (40%) than in the nonhypnotic delay condition (80%). It may be that undergraduate students may have been exposed to some of the hypnosis literature as part of their introductory curriculum. If this is the case, it suggests that educating jurors about the complexities of hypnotic procedures may curtail the emphasis jurors place on hypnotic eyewitness testimony.

Overall individual jurors placed more weight in the eyewitness who immediately recalled the details of the event and the least weight on the nonhypnotic witness who delayed recall of the event for a week. The impact of the hypnotic witness was less

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clear. On some variables, subjects who saw the hypnotic witness did not differ from subjects in the other delay condition, on other variables they fell in between the other conditions, and on still other variables they did not differ from subjects in the immediate recall condition. Unfortunately, the interaction between recall delay and hypnosis was impossible to assess because Greene et al. failed to include an immediate hypnotic recall condition as a control. Furthermore, the hypnotic witness was not cross-examined about hypnosis, and the witnesses testimony was heard prior to information revealing that it was obtained under hypnosis. Brekke and Borgida (1988) found that the order of presentation may affect the impact of such testimony. Along these lines, failure to inform the jury that the witness had been hypnotized until after the witness testified would serve to strengthen the impact of the testimony.

Spanos, Gwynn and Terrade (1989) found that mock jurors who tried a case involving a nonhypnotic eyewitness returned guilty verdicts as often as subjects who saw an hypnotic witness. Unfortunately, Spanos confounded hypnosis and the presence of an expert witness. The jurors who saw the hypnotic witness also saw an expert testify in favour of hypnotic procedures. Because they did not include a hypnotic no-expert control condition it is impossible to determine if the expert acted to minimize the impact of the hypnotic testimony. Taken together, however, the findings from Greene et al. (1989), Sanders et al. (1989) and Spanos, Gwynn and Terrade (1989) provide some support for the notion that people may not be unduly influence by hypnotic testimony.

However, neither of the mock jury studies used eyewitnesses who had actually

undergone an hypnotic interview and Sanders et al. (1989) failed to assess subjects perceptions in the context of a complete trial. In the present study, half of the juries saw the testimonies of witnesses who had undergone the hypnotic induction procedure described in Experiment 1 and the remainder saw eyewitnesses who did not receive the hypnotic induction procedure. Moreover, the eyewitness testimony were embedded among other witness testimonies, lawyers arguments and judicial instructions.

Impact of Eyewitness Testimony

McCloskey and Eggeth (1983) argued that jurors are often sceptical of eyewitness testimony. However, most studies indicate that eyewitness testimony has a substantial impact on juror verdicts. These studies indicate that subjects tend to overestimate the perceived accuracy of eyewitness identifications (Brigham & Bothwell, 1983), that jurors tend to believe eyewitness testimony is accurate rather than inaccurate (e.g., Wells, Lindsay & Tausignant, 1980) and that eyewitness testimony substantially influences jurors' beliefs in the guilt of the defendant (e.g., Maas, Brigham & West, 1985).

In *Neil v. Biggers* (1972) the United States Supreme Court ruled that triers of fact should use witness confidence as one index of the accuracy of the witness' testimony. The impact of eyewitness confidence on jurors evaluations of witness accuracy was assessed in a number of studies. Some mock jury research indicates that jurors perceive witness confidence to be an indication of eyewitness accuracy; whereas, other studies indicate that jurors' perceptions of eyewitness accuracy are influenced by

different factors. Lindsay, Wells and O'Conner (1989) showed mock juries a simulated case that involved students who had witnessed a staged theft and who had been examined and cross-examined in a real courtroom by law students and practicing lawyers. Jurors who saw an eyewitness who had misidentified the offender returned as many guilty verdicts as jurors who saw an eyewitness who had correctly identified the offender. In similar mock jury studies, eyewitnesses have been rated as more accurate than they actually were (Lindsay, Wells & Rumpel, 1981; Wells & Lieppe, 1981). These findings suggest that jurors cannot effectively evaluate the accuracy of eyewitness testimony.

Some mock jury studies indicate that jurors evaluations of eyewitness testimony are based largely on the degree of confidence exhibited by the witness (Wells et al., 1979; 1980). Cutler et al. (1988) had eyewitnesses examined and cross-examined by practicing lawyers. They found that student-jurors' perceptions concerning the accuracy of eyewitness identification and their verdicts were significantly influenced by the confidence an eyewitness displayed on the stand. However, eyewitness confidence, although significant, only accounted for 2% of the variance in juror verdicts. Moreover, in this series of studies witness confidence was artificially manipulated. In half of the scenarios the witness testified that she was 100% confident that the defendant was the robber and in the remainder of the scenarios she testified that she was only 80% confident that the defendant was the robber. In addition, subjects' verdicts and probability ratings concerning their perceptions of identification accuracy were made independently. Subjects did not hear judicial

instructions and were not given the opportunity to deliberate as a group to a verdict. Several studies now indicate that group deliberation and judicial instructions may influence jurors perceptions of the evidence.

In another study eyewitnesses saw a simulated crime and were examined and cross-examined (Lindsay et al., 1989). The videotaped testimonies were then included in a simulated criminal trial. Mock jurors who saw witnesses who were highly confident were more likely to return guilty verdicts than were mock jurors who saw nonconfident witnesses. In this study, jurors' confidence ratings accounted for 8% of the variance in their verdicts.

Spanos, Gwynn and Terrade (1989) found that mock jurors' perceptions of the extent to which a rape victim believed the defendant was guilty accounted for up to 27% of the variance in jurors private beliefs in the defendants guilt. Wells, Lindsay and Tousignant (1980) found a substantially larger effect for eyewitness confidence. They found that jurors' perceptions of eyewitness confidence accounted for nearly 50% of the variance in the extent to which subjects believed the witness' testimony.

Other studies indicate that the relationship between accuracy and confidence is mediated by other situational factors. For example, Lindsay et al. (1981) found that jurors who saw a nonconfident eyewitness considered the witnessing conditions in evaluating the eyewitness testimony, however, jurors who saw a confident eyewitness did not examine the witnessing conditions in evaluating the testimony of the witness.

In a recent study, Lieppe, Manion and Romanczyk (1991) showed subjects videotapes of adults who were engaged in a free recall, an objective-recall, and a

cued-recall task concerning the details of an experiment that they had participated in. Overall, subjects' perceptions of the confidence displayed by the adult witnesses was related to the extent that they believed the witness, but unrelated to their perceptions of witness accuracy. Instead, subjects' perceptions of witness consistency and speech powerfulness were related to their perceptions of accuracy. In fact, actual witness accuracy was consistently related to the frequency of times witnesses responded "I don't know" and the length of their reports.

In two mock jury studies Cutler manipulated several aspects of the witnessing situation (e.g., the presence of a weapon, duration of viewing, whether or not the perpetrator was disguised) and several aspects of the identification situation (e.g., type of lineup; Cutler et al.; 1988; Cutler et al., 1990). All of the aspects of the witnessing conditions which were manipulated had been shown to influence actual eyewitness identifications in previous studies. They found that both undergraduate students and actual jurors were not consistently influenced by these variables. Overall, variables that have been shown to influence eyewitness identification accuracy in previous studies failed to influence mock jurors' perceptions of the eyewitness identifications.

Pretrial Preparation

Preparing witnesses before they testify in court is a routinely recommended procedure for enhancing a witnesses performance on the stand. However, few studies have examined the impact of preparation techniques on eyewitness testimony or on jurors' perceptions of such testimony. Turtle and Yuille (1989) found that in a

nonjudicial context nonhypnotic eyewitnesses who were able to review their previous recall statements were more self-confident in their recall than were controls; and Wells et al. (1981) found that subjects who were given time to silently rehearse their testimonies were more confident in their identifications during cross-examination than were unrehearsed witnesses.

Spanos et al. (1991) assessed the relative impact of giving confidence boosting instructions and time to practice responding to mock questions on hypnotic and nonhypnotic eyewitness identification confidence in a mock courtroom context. They found that preparation had an inconsequential impact on the certainty ratings of nonhypnotic witnesses. However of hypnotic witnesses, prepared witnesses were more certain in their courtroom identifications than were unprepared witnesses. Nevertheless, when certainty ratings at both direct- and cross-examination were considered preparation failed to interact with hypnosis. Instead, prepared and unprepared witnesses did not differ on their direct-examination confidence but prepared witnesses were less likely than unprepared witnesses to disavow their identifications during cross-examination.

In all the studies mentioned previously eyewitness confidence was operationalized in terms of self-evaluations (e.g., how certain are you that you correctly identified the offender). Only two studies have examined others' perceptions of prepared and unprepared witnesses and the findings from these studies have been mixed.

Wells et al. (1981) showed mock jurors the videotaped cross-examinations of witnesses to a simulated crime and reported that jurors who saw briefed witnesses

voted to convict the defendant more often than did jurors who saw unbriefed witnesses. Although preparation influenced individual juror verdicts it failed to significantly influence deliberated jury verdicts. Wells also reported a marginally significant effect for briefing on jurors perceptions of witness confidence. Jurors who saw the briefed witness perceived these witnesses to be more confident than did jurors who saw the unbriefed witnesses.

Sanders et al. (1989) also assessed the effects of preparation on others' perceptions of hypnotic and nonhypnotic testimony. They found that lawyers rated both hypnotic and nonhypnotic witnesses who were shown their previous statements as more credible than control witnesses but no more confident or consistent in their recall than control subjects. However, it appears likely that lawyers were not blind to the briefing conditions. A second group of subjects who were blind to the briefing and hypnosis conditions watched the videotaped eyewitness testimonies and rated briefed and unbriefed eyewitnesses equivalently on the completeness and consistency of their testimony, the degree of identification confidence exhibited by the witnesses, and the credibility of witness testimonies. Hypnosis also failed to influence subjects' perceptions on any of the assessed dimensions.

Taken together, these studies suggest that the confidence a witness holds in their identification may be inflated by preparation strategies, that preparation may immunize witnesses against disavowing their identifications during cross-examination, and finally that hypnosis may interact with preparation in influencing confidence. The findings concerning others' perceptions of prepared and unprepared testimonies is less

clear. In one study, subjects' perceptions of witnesses were influenced by preparation (Wells et al., 1981) and in a second study perceptions of witnesses were not influenced by preparation instructions (Sanders et al., 1989). The differences between the methodologies of these two studies may partially explain the discrepant findings. Wells et al. (1981) assessed jurors perceptions of identification confidence during cross-examination whereas, Sanders et al. (1989) assessed perceptions of witness identification confidence made during the direct-examination, and neither assessed witness identification certainty at both intervals. It may be that the Wells' measure was a more accurate reflection of the extent to which jurors thought the witness broke down during cross-examination. This hypothesis is consistent with the results of Spanos et al. (1991) who found that eyewitness self-ratings of certainty did not differ at direct examination but that prepared witnesses had higher ratings of certainty at cross-examination than unprepared witnesses.

Taken together these studies included several procedures that may have limited their ecological validity; raters in Sanders et al. (1989) were sensitized to the rating dimensions before they heard the eyewitness testimonies; and in both studies subjects rated eyewitness testimony in the absence of other testimonies, statements, or judicial instructions. These factors may have influenced subjects perceptions of the eyewitness identification evidence. In the present study, the effects of pretrial preparation on jurors' evaluations of hypnotic and nonhypnotic eyewitness confidence and identification accuracy was examined in the context of a jury simulation study. A subset of eyewitness testimonies from Experiment 1 was inserted into a simulated

murder trial that included the examination and cross-examination of several witnesses. Thus, the testimony of the eyewitnesses was no more salient than other witness testimonies. In addition, jurors evaluated the eyewitness testimony only after seeing the entire trial.

Expert Testimony

The admission of expert testimony concerning the reliability of eyewitness memory is subject to rule 702 of the Federal Rules of Evidence and the Frye criteria. Specifically, the court must be convinced that the content of the testimony is, (a) beyond the knowledge held by the average juror, (b) that it is accepted within the scientific field, (c) that its probative value outweighs its prejudicial value, and (d) that the expert is professionally qualified to testify (McKenna, Treadway, & McCloskey, 1992). Expert testimony about general psychological principles concerning human memory has been admitted in American courts but continues to be inadmissible in Canadian courts (Yuille, 1989). Such testimony has been particularly likely to be admitted in cases where there is little corroborating evidence (Levy, 1987; pg 176).

The focus of the present study was to evaluate whether or not jurors are unduly influenced by the presence of an expert witness. In an earlier study Loftus (1974) found that expert testimony did not significantly influence mock jurors' evaluations of eyewitness testimony. However, more recent jury simulation indicated that expert testimony has at least some impact on mock juror verdicts (e.g., Loftus, 1980; Spanos, DuBreuil, & Gwynn, 1991; Wells et al., 1980). Some of these studies found

that expert evidence totally discredited the testimony of eyewitnesses. For example, Weinberg and Baron (1982) found that jurors who heard an expert testify believed an eyewitness to be less credible than jurors who did not hear the expert witness. Other studies indicate that expert testimony decreased the emphasis mock jurors placed on eyewitness testimony but did not totally discredit the eyewitness. Maas et al. (1985) found that mock jurors' postdeliberation beliefs concerning guilt were influenced by exposure to one of four experts. Subjects exposed to an expert witness believed more strongly in the defendant's guilt than subjects who did not see the expert or eyewitness testimonies. However, subjects who saw the eyewitness held stronger beliefs in the defendant's guilt than subjects who were exposed to the expert. These findings indicate that the expert was at least somewhat effective in discrediting the eyewitness testimony.

Only one mock jury study assessed the impact of expert testimony concerning the reliability of hypnotically refreshed recall on juror judgements. Spanos, Gwynn, and Terrade (1989) read student mock jurors a synopsis of a sexual assault trial in which the victim as the main witness for the Prosecution identified the defendant as her assailant. Jurors also saw the videotaped testimony of a Prosecution expert favourable to hypnosis, a Defense expert unfavourable to hypnosis, or the two conflicting experts. Jurors were as likely to vote guilty in the control (nonhypnotic witness/no expert) condition as in the favourable expert condition. Presentation of an expert unfavourable to hypnosis or conflicting expert testimony resulted in fewer guilty verdicts than in the control or favourable expert conditions. However, this effect

was limited to the level of individual jurors and did not occur at the level of juries. At the level of juries, verdicts were the same across conditions. Unfortunately, rates of acquittal were generally high which may have masked any effects of the expert witness. Moreover, expert witnesses were not cross-examined. Some data suggests that cross-examination can reduce the impact of expert testimony (Spanos, DuBreuil & Gwynn, 1991). As well, because Spanos, Gwynn, and Terrade did not include a nonhypnotic expert control condition it is impossible to determine whether jurors were influenced by the experts testimony concerning hypnosis, memory, or both components of his testimony. The present study included appropriate control conditions and the expert witness was examined and cross-examined.

The Present Study

The impact of hypnotic testimony on jury verdicts has not been adequately tested in an empirical setting. In the two mock jury studies that assessed the impact of hypnotic procedures, jurors did not see an actual witness who had undergone a hypnotic interview. The critical limitation of this approach is that it probably tests subjects preconceptions about hypnosis while indicating little about how actual hypnotic procedures effect witness testimony and jurors' perceptions of such testimony.

In the present study, a random selection of subject-eyewitness testimonies from Experiment 1 were inserted into a simulated murder trial. Sixty-four mock juries saw one of six versions of the case and deliberated on the case. This study assessed the impact of hypnosis and pretrial preparation instructions administered to actual

witnesses, as well as, the effects of expert testimony on jurors' perceptions of eyewitness testimony and assessments of guilt. Whereas the first study assessed the influence of hypnotic, imagery, and pretrial preparation instructions on eyewitness' self-ratings of confidence, the second study examined jurors' assessments of eyewitness confidence.

Method

Subjects

Subjects were 417 (225 females, 189 males) undergraduate psychology students who volunteered to participate in a mock jury study that involved watching a simulated murder trial and deliberating, in groups, to a unanimous verdict. The mean age of the sample was 20.58, $sd = 2.35$. All subjects were awarded experimental credits in partial fulfilment of their course requirements.

Design

Sixty-four juries were randomly assigned to one of the six cells of a $2 \times 2 \times 2$ between groups factorial. Two of these factors reflected the witness conditions; the type of recall procedure administered to the eyewitness (hypnotic/nonhypnotic) and whether or not the eyewitness received pretrial preparation instructions (prepared/unprepared). Half of the juries saw an eyewitness who was administered an hypnotic induction procedure and the remainder saw an eyewitness who did not receive the induction procedure. Juries that saw the hypnotic witness also saw the interviewing officer examined and cross-examined about his use of the hypnotic procedure. Juries that saw a nonhypnotic witness saw the same officer testify

concerning his interview with the witness, but all references to hypnosis were removed. Within these cells, half of the juries saw an eyewitness who was prepared before testifying in court and the remainder saw an eyewitness who was not prepared. Juries were blind to whether or not the witness was prepared.

The third manipulated factor was the presence or absence of an expert witness. Half of the juries within the four cells of the witness factors (i.e., hypnosis and preparation) saw an expert witness for the Defense testify concerning the unreliability of human memory. Juries that saw the hypnotic eyewitness also heard the expert testify concerning the unreliability of hypnosis as a means of enhancing eyewitness recall. In all cases the expert witness was examined and cross-examined. The expert and hypnosis factors were purposely confounded in order to reflect actual courtroom practices. In actual practice it is likely that the Defense would call an expert witness to testify concerning hypnosis and eyewitness recall if, in fact, hypnosis was used to refresh the memories of an eyewitness.

Procedure

Juries were comprised of between 5 to 9 subjects. On arrival at the lab subjects were administered an Informed Consent Form. They were then shown one of the six videotaped trial simulations. Each simulation included, a) the opening statements of the Judge, Prosecution, and Defense; b) the eyewitness testimony and the testimonies of four other Prosecution witnesses; c) the testimonies of the witnesses for the Defense; d) the closing arguments of the Defense and Prosecution; and e) the Judges charge to the jury.

After watching the judge's final charge subjects chose a foreperson. The foreperson read aloud a written description of the jury's task to other members of the jury (Appendix G). Juries then deliberated to a verdict. Juries that returned a hung verdict before 60 minutes elapsed were told that jury deliberations are a serious and important process and that it is important that they try to reach a unanimous verdict. Juries that returned a second nonunanimous verdict or failed to reach an unanimous decision within 60 minutes were declared hung.

At five points throughout the trial subjects rated the extent to which they privately believed that the defendant was guilty of the murder (see Appendix H). Subjects completed this measure after the lawyer's opening statements, after the testimony of the eyewitness, after the testimonies for the remaining Crown witnesses, after the judges charge and, after the jury deliberations. Before and after deliberations each juror returned an individual verdict of guilty or not guilty. After the deliberations jurors completed several questions that assessed their perceptions of the eyewitness testimony (see Appendix I). Subjects were then orally debriefed, given a written debriefing, awarded their experimental credits and dismissed.

Case Synopsis. The trial involved a charge of second degree murder (see Appendix J for the trial transcripts). Mr. Russell, a 40 year old restaurant owner, was charged with the murder of Mr. Harris, a well known loan shark with a criminal record. The Prosecution argued that Mr. Russell had both the means and the motive to kill Mr. Harris. The Prosecution claimed that Mr. Russell used his own 38-calibre revolver to kill Mr. Harris and that he did so in order to avoid returning money that

he had borrowed from Mr. Harris. The Prosecution argued that the defendants alibi was inadequate because his whereabouts at the time of the murder could not be corroborated by any independent sources. The Prosecution also submitted several pieces of physical evidence to support its case.

The investigating officer testified that when he searched the victim's home he found a diary containing the names of at least 50 people to whom Mr. Harris had loaned money. The defendant's name, how much he borrowed from the victim, and how much he owed the victim was in a diary. According to the Defense the other names in the diary provided a reasonable doubt concerning the defendant's guilt. The Defense argued that any one of the people in the diary, some of whom were themselves criminals, had the motive and means to murder the victim.

The investigating officer also testified that when the suspect was questioned as to whether or not he owned a gun he immediately gave the police his registered 38 revolver. The Defense argued that an innocent man would not have willingly handed his gun over to the police but instead would have concealed or disposed of the weapon. The Prosecution argued that to do otherwise would have implied that the defendant was guilty because the police could easily have determined that the suspect owned a gun.

A forensic criminalist examined the defendant's revolver, the bullet fragments removed from the victim, a set of tire tracks found at the scene of the murder and the tires on the defendant's car. The criminalist testified that the bullet that killed the victim was fired from a 38 calibre revolver. He also testified that the defendant's 38

calibre revolver was fired within 6 days of the forensic analyses which were performed two days after the murder. The criminalist also testified that the findings from his analyses of the defendant's tires and the tire marks found at the scene of the murder were consistent with the hypothesis that the tracks were made by the tires on the defendant's car. During cross-examination, however, the criminalist acknowledged that he could not determine whether the defendant's gun was the murder weapon, where the defendant's gun was fired, or when the defendant's gun was fired. He also acknowledged that any other car with same type of tires as the defendant's tires could have made the tire tracks at the scene of the murder.

The detective who interviewed the eyewitness testified that the eyewitness selected the defendant from a lineup involving five other male Caucasians. During cross-examination the Defense attorney tried to discredit the detective by suggesting that he led the witness to choose the defendant by subtle suggestions given during the pre-lineup interview. The detective denied leading the eyewitness to choose the defendant from the lineup but could not corroborate his assertions because his interview with the witness was not recorded.

Eyewitness testimony. Four eyewitnesses from each of the four cells of the 2 x 2 (hypnotic/nonhypnotic x prepared/unprepared) factorial in Experiment 1 (collapsed across imagery instructions) were randomly selected. All eyewitnesses received the series of direct- and cross-examination questions outlined in Experiment 1. These witnesses were inserted into the simulated murder trial. Juries that did not see the expert witness saw the same eyewitnesses as juries that saw the expert witness.

Expert testimony. The expert witness was examined by the Defense attorney and cross-examined by the Prosecuting attorney. During the examination the expert testified about the unreliability of eyewitness identifications, the lack of a relationship between the accuracy of an eyewitness identification and the confidence an eyewitness displays in their identification, and about several factors that influence the accuracy of eyewitness identifications (e.g., the presence of a weapon & offender disguise). In the hypnotic conditions, the expert also testified against the use of hypnosis as a means of facilitating accurate eyewitness identifications. The witness testified that hypnotically facilitated recall is often inaccurate, confabulated, and that hypnotic witnesses are more likely to be confident in their inaccurate identifications than are nonhypnotic identifications. During cross-examination the Prosecutor led the expert to acknowledge that his direct testimony was based on general psychological principles and that such principles do not hold in all cases. The expert witness revealed that there are cases in which eyewitnesses have made accurate lineup identifications, that some witnesses have accurately identified offenders in crimes involving weapons and/or violence. In the hypnotic conditions the expert also admitted that there are numerous anecdotal cases in which hypnotic recall has lead to the conviction of an offender, and that some witnesses recall additional accurate information during hypnosis.

Dependent Measures

Jury verdicts. Each jury returned a unanimous verdict of guilty (scored +1), not guilty (scored -1) or, were declared hung (scored 0).

Juror verdicts. Before and after deliberations subjects submitted individual verdicts of guilty or not guilty. Guilty verdicts were scored 1 and not guilty verdicts were scored -1.

Private beliefs. Subjects rated the extent to which they privately believed that the defendant was guilty four times throughout the trial scenario. First, after the lawyer's opening statements, second, after the eyewitness' testimony, third, after the Crown's case had been presented, fourth, after the judge's charge to the jury (but before deliberations) and, finally, after the jury deliberations. Private belief ratings were recorded on an 11-point scale ranging from -5 (certain the defendant is not guilty) through 0 (unsure) to +5 (certain the defendant is guilty). This scale has been found to be reliable in other mock jury studies (e.g., Spanos, DuBreuil, & Gwynn, 1991; Spanos, Gwynn, & Terrade, 1989).

Confidence and accuracy. Subjects completed two questions concerning their perceptions of the eyewitness. They rated the extent to which they believe that the eyewitness had accurately identified the murder and the degree of confidence eyewitnesses held in their identifications. These ratings were made on a 7-point scale ranging from not at all confident/accurate (0) to very confident/accurate (6).

Expert credibility. Subjects rated the extent to which they thought that the expert was a credible witness. Ratings were made on a 7-point scales ranging from not at all credible (0) to very credible (6).

Results

Jury Verdicts

Fifty-nine juries returned unanimous not guilty verdicts and the remaining five juries were declared hung. Four of the hung juries did not see the expert psychological witness and the remaining nonunanimous jury did see the expert witness (see Table 14). A three-way Hypnosis x Preparation x Expert (2 x 2 x 2) ANOVA indicated that none of the main effects or interactions reached significance (see Table 15).

Juror Verdicts

There was very little variability in jurors' postdeliberation verdicts. At least 88% of jurors within each condition voted not guilty after deliberating and in four of the eight conditions all of the jurors returned not-guilty verdicts. Because of the lack of within groups variability these data were not statistically analyzed. However, after deliberations 97.6% of the jurors returned not-guilty verdicts. Only 10 jurors voted to convict the defendant after deliberating (see Table 16). Of these jurors, nine did not see the expert witness.

Predeliberation juror verdicts were analyzed with a 2 (Hypnosis) x 2 (Preparation) x 2 (Expert) ANOVA (see Table 17). The only effect that reached significance was the main effect of expert testimony, $F(1,409) = 4.15, p < .05$. Jurors who saw the expert witness, $M = -.73, sd = .69$, acquitted the defendant significantly more often than did jurors who did not see the expert witness, $M = -.57, sd = .82$. No other effects reached significance.

Table 14.**ANOVA Summary Table for Jury Verdicts.**

Source	Sum of Squares	DF	Mean Square	F	Sig
Expert	.141	1	.141	1.909	.173
Preparation	.016	1	.016	.212	.647
Hypnosis	.016	1	.016	.212	.647
Exp x Prep	.016	1	.016	.212	.647
Exp x Hyp	.141	1	.141	1.909	.173
Prep x Hyp	.141	1	.141	1.909	.173
Exp x Prep x Hyp	.016	1	.016	.212	.647
Ss W Cells	4.125	56	.074		

Table 15.**Frequency of Juries Within Conditions That Returned Not Guilty Verdicts or Were Declared Hung.**

Condition	No Exper		Expert	
	NG	Hung	NG	Hung
Nonhypnotic				
Unprepared	6	2	8	0
Prepared	7	1	8	0
Hypnotic				
Unprepared	8	0	8	0
Prepared	7	1	7	1

Table 16.**Percentage of Jurors Within Conditions Who Voted Not Guilty at Pre and Postdeliberation.**

Condition	<u>Predeliberation</u>		<u>Postdeliberation</u>	
	NoX	Exp	NoX	Exp
Nonhypnotic				
Unprepared	79.07	91.07	88.37	100.00
Prepared	78.18	81.25	98.18	100.00
Hypnotic				
Unprepared	79.25	88.13	100.00	100.00
Prepared	78.43	84.60	94.11	98.08

Table 17.**ANOVA Summary Table for Predeliberation Juror Verdicts.**

Source	Sum of Squares	DF	Mean Square	F	Sig of F
Hypnosis	.00	1	.00	.00	.975
Preparation	.75	1	.75	1.31	.253
Expert	2.38	1	2.38	4.15	.042
Hyp x Prep	.11	1	.11	.20	.658
Hyp x Exp	.00	1	.00	.00	.981
Prep x Exp	.34	1	.34	.59	.444
Hyp x Prep x Exp	.10	1	.10	.17	.676
Ss W Cells	234.59	409	.57		
Total	238.27	416	.57		

Private Beliefs

Recall that subjects rated their private beliefs in the defendant's guilt five times throughout the trial. A $2 \times 2 \times 2 \times 5$ (Hypnosis x Preparation x Expert x Interval) mixed ANOVA revealed a significant four-way interaction between these variables, $F(4,1564) = 3.28, p < .05$ (see Tables 18 & 19). We were particularly interested in examining the effects of the preparation and expert witness factors across intervals and consequently chose a subset of simple effects analyses to investigate these effects.

The effects of preparation. We had hypothesized that after seeing the eyewitness jurors who saw the prepared witness would hold stronger private beliefs in the defendant's guilt than jurors who saw the unprepared witness. We were also interested in examining the influence of the hypnosis factor on juror's private beliefs but did not have apriori hypotheses concerning its influence. In order to examine these effects the hypnosis factor was controlled and the simple 3-way interactions between Preparation, Expert and Interval were analyzed. These simple interactions were nonsignificant for both jurors who saw the hypnotic witness and jurors who saw the nonhypnotic witness. For nonhypnotics the two-way interaction between Preparation and Interval was significant, $F(4,1564) = 3.43, p < .05$ (see Figure 1). The corresponding interaction for nonhypnotics was nonsignificant. However, examination of the means in Figure 1 showed that at interval 1 and 2 the pattern of means was similar for both hypnotic and nonhypnotic subjects. These intervals were particularly important because they represented jurors' baseline beliefs and jurors' beliefs assessed immediately after exposure to the eyewitness testimony. For both

Table 18.**ANOVA Summary Table for Private Beliefs in the Defendant's Guilt.**

Source	Sum of Squares	DF	Mean Square	F	Sig. of F
Preparation	103.13	1	103.13	6.12	.014
Hypnosis	.27	1	.27	.02	.899
Expert	38.17	1	38.17	2.27	.133
Prep x Hyp	.00	1	.00	.00	.998
Prep x Expert	6.35	1	46.35	2.75	.098
Hyp x Expert	19.89	1	19.89	1.18	.278
Prep x Hyp x Exp	7.69	1	7.69	.46	.500
Ss W Cells	6588.87	391	16.85		
Interval	1712.88	4	428.22	136.65	.000
Prep x Int	43.23	4	10.81	3.45	.008
Hyp x Int	12.92	4	3.23	1.03	.390
Exp x Int	23.28	4	5.82	1.86	.115
Prep x Hyp x Int	14.17	4	3.54	1.13	.340
Prep x Exp x Int	1.98	4	.49	.16	.960
Hyp x Exp x Int	18.35	4	4.59	1.46	.211
Prep x Hyp x Exp x Int	41.13	4	10.28	3.28	.011
Residual	4901.26	1564	3.13		

Table 19.

Mean Ratings of Private Beliefs by Condition and Interval.

		<u>No Expert</u>					<u>Expert</u>				
		1	2	3	4	5	1	2	3	4	5
<u>Unprepared Nonhypnotic</u>											
<u>M</u>	.05		-.72	-.72	-1.93	-1.70	.30	-.59	-1.48	-2.63	-3.11
<u>sd</u>	1.20		2.52	2.68	3.25	3.71	1.90	2.09	2.18	2.87	2.51
<u>Unprepared Hypnotic</u>											
<u>M</u>	.30		-.54	-.70	-1.29	-2.42	-.21	-1.38	-1.12	-2.29	-2.74
<u>sd</u>	1.66		2.18	2.56	3.05	2.66	1.68	1.48	1.99	2.34	2.61
<u>Prepared Nonhypnotic</u>											
<u>M</u>	-.10		.08	-.84	-1.78	-2.37	.06	.44	-.31	-1.17	-2.21
<u>sd</u>	1.77		1.72	2.10	2.89	2.54	1.83	1.69	2.68	3.05	2.71
<u>Prepared Hypnotic</u>											
<u>M</u>	.04		.02	-.22	-1.56	-1.93	.46	-.02	-.85	-1.89	-2.40
<u>sd</u>	2.02		2.07	2.30	3.25	3.16	1.98	2.09	2.27	2.95	2.52

Figure 1.

Plotted Means for Private Beliefs in the Defendant's Guilt by Preparation and Interval.

jurors who saw the hypnotic witness and jurors who saw the nonhypnotic witness the simple effects analyses were computed across intervals. Both of these effect reached significance and multiple comparisons were used to conduct several pairwise comparisons. Both jurors who saw the hypnotic and nonhypnotic witnesses who were prepared maintained their private beliefs in the defendants guilt from interval 1 (after the opening statements) to interval 2 (after the eyewitness). Jurors who saw the hypnotic and nonhypnotic unprepared witnesses rated the defendant as significantly less guilty after seeing the eyewitness (interval 1) than after the opening statements (interval 2). Preparation did not significantly influence jurors' private beliefs in the defendants guilt at interval 1 (i.e., after the opening statements) or after the deliberations (interval 5). However, jurors believed that the defendant was significantly more guilty after seeing the prepared witness than after seeing the unprepared witness (interval 2), nonhypnotic, $F(1,1564) = 6.82, p < .05$; hypnotic, $F(1,1564) = 7.22, p < .05$.

The effects of expert. The expert witness factor was introduced after rating interval 3. Therefore, effects due to the expert witness would be apparent at intervals 4 and 5. In all four conditions represented in Figure 2 jurors private beliefs in the defendant's guilt decreased substantially after seeing the expert witness.

The simple three-way interaction between Hypnosis, Expert and Interval was significant for subjects who saw the unprepared witness. The simple-simple interaction between Expert and Interval for nonhypnotic subjects was also significant (Figure 2a). Multiple comparisons indicated that jurors who did not see the expert

Figure 2.

Plotted Means for Private Beliefs in the Defendant's Guilt by Hypnosis, Preparation, Expert, and Interval.

witness privately believed that the defendant was significantly more guilty after deliberating than did jurors who saw the expert witness. The corresponding simple-simple interaction between Expert and Interval for jurors who saw the unprepared hypnotic witness was nonsignificant (Figure 2b) indicating that the expert witness factor was relatively uninfluential for these jurors.

The simple three-way Hypnosis by Expert by Interval interaction was nonsignificant as were all simple two-way interactions within this analysis (see Figures 2c & 2d). These findings indicate that the expert witness was relatively ineffective in influencing the private beliefs in the defendant's guilt held by jurors who saw the prepared witnesses.

In short, examination of the pre and postdeliberation private belief ratings indicated that the expert witness was particularly influential when jurors saw the unprepared nonhypnotic witness. After deliberating, jurors who saw the unprepared nonhypnotic witness held higher private beliefs in the defendants guilt if they did not see the expert than if they did see the expert. The expert failed to influence the pre or postdeliberation beliefs of jurors who saw the prepared witnesses.

Carryover effects of the eyewitness. To indirectly assess the hypothesis that jurors' perceptions of the eyewitness testimony influenced their evaluations of the physical evidence jurors were categorized into (a) those who privately believed that the defendant was not guilty after seeing the eyewitness (interval 2 ratings < -1 ; $n = 126$) and (b) jurors who privately believed that the defendant was guilty after seeing the eyewitness (interval 2 ratings $> +1$; $n = 80$). Private beliefs that were assessed

after exposure to the Crown's witnesses and physical evidence (interval 3) were then assessed with a one-way ANOVA with the previously defined groups as the 2 levels of the independent variable. The ANOVA indicated that subjects who believed the eyewitness also maintained their pro-guilt private beliefs in the defendant's guilt, $M = 1.41$, $sd = 2.49$, to a significantly greater extent than did jurors who disbelieved the eyewitness, $M = -2.49$, $sd = 1.77$; $F(1,204) = 172.37$, $p < .001$. Overall, this later group maintained their belief that the defendant was innocent.

Perceptions of the Eyewitness

Recall that jurors rated their perceptions concerning the accuracy and confidence of the eyewitness identifications. Therefore, each subject had two scores, one score reflecting their perceptions of confidence and a second score reflecting their perceptions of accuracy. These scores were analyzed with a $2 \times 2 \times 2$ (Hypnosis x Preparation x Expert) multivariate ANOVA (MANOVA) with juries nested within conditions (see Table 20). The only multivariate effect that reached significance was pretrial preparation, $F(2,112) = 11.04$, $p < .001$. The univariate analyses indicated that jurors rate the prepared witnesses as more confident in their identifications than the unprepared witnesses, $F(1,56) = 21.39$, $p < .001$ (see Table 21). Jurors also rated the prepared witnesses as more accurate in their identifications than the unprepared witnesses, $F(1,112) = 12.51$, $p < .001$.

Expert Credibility

Jurors rated the credibility of the expert witness on a 7-pt scale ranging from not at all credible (scored 0) to very credible (scored 6). A 2×2 (Hypnosis x

Table 20.**MANOVA Summary Table for Jurors' Perceptions of Eyewitness Identification****Confidence and Accuracy.**

Source	Pillais	Apx. F	Hyp. DF	Error DF	Sig
Jury W Hyp by Prep by Exp	.578	2.535	112	698	.000
Hyp by Prep by Exp	.039	1.123	2	55	.333
Prep by Exp	.028	0.800	2	55	.454
Hyp by Exp	.033	0.926	2	55	.402
Hyp by Prep	.046	1.318	2	55	.276
Expert	.001	0.025	2	55	.975
Preparation	.286	11.038	2	55	.000
Hypnosis	.020	0.575	2	55	.566

Univariate F-tests with (1,56) D. F for Preparation.

Variable	SS	Error SS	MS	Error MS	F	Sig
Confident	189.66	496.46	189.66	8.8	21.39	.000
Accurate	44.42	198.79	44.42	3.5	12.514	.001

Table 21.**Mean Ratings of Confidence and Accuracy for Prepared and Unprepared****Eyewitnesses.**

Variable	<u>Eyewitness</u>	
	Prepared	Unprepared
ID Confidence		
<u>M</u>	4.58	3.35
<u>SD</u>	1.81	1.75
ID Accuracy		
<u>M</u>	3.34	2.70
<u>SD</u>	1.51	1.46

Preparation) ANOVA conducted on ratings within the expert witness conditions with juries nested within conditions revealed nonsignificant effects (see Table 22).

Overall, jurors' ratings of expert credibility were high, $M = 4.93$, $sd = 1.42$.

Correlations

Pearson correlations were computed between all of the dependent measures to examine the differences in the pattern of correlations between jurors who saw: (a) the hypnotic versus nonhypnotic witnesses, (b) the prepared versus unprepared witnesses, and (c) the expert versus no expert witness. Examination of the pattern of correlations within these comparison groups generally revealed nonsignificant differences between corresponding pairs of correlations. Therefore, subjects were combined and the correlations were recomputed using the entire sample (see Table 23).

Jurors' perceptions of the confidence witnesses held in their identifications of the offender and their perceptions of identification accuracy of those identifications were moderately correlated ($r = .43$). Ratings of confidence ($r = .14$) and accuracy ($r = .25$) also showed small but significant correlations with juror verdicts.

Private belief ratings were intercorrelated (r s ranged from .25 to .69). Private beliefs assessed at adjacent intervals consistently demonstrated the highest relative magnitude. As the number of intervals between coefficients increased the magnitude of the correlations decreased.

Table 22.**ANOVA Summary Table for Ratings of Expert Credibility.**

Source	Sum of Squares	DF	Mean Square	F	Sig. of F
Hypnosis	.34	1	.34	.08	.781
Preparation	.50	1	.50	.12	.737
Hyp by Prep	2.63	1	2.63	.62	.846
Jury W Hyp by Prep	85.24	20	4.26	2.92	.000
Residual	203.20	139	1.46		

Discussion

The second study assessed the impact of pretrial preparation and expert testimony on jurors perceptions of hypnotic and nonhypnotic eyewitness testimony. These three factors were completely crossed in a three-way between groups factorial design (hypnosis/no hypnosis x prepared/unprepared x expert witness/no expert). Jurors watched a simulated trial which included all of the substantive elements of an actual trial and then deliberated to group verdicts.

Overall, acquittal rates were high; ninety percent of the juries voted unanimously to acquit the defendant. These high rates of acquittal are surprising in light of the generally accepted notion that eyewitness testimony has a substantial impact on jurors assessments of guilt. This notion has been supported by earlier mock jury research which demonstrated that eyewitness testimony increased the likelihood that jurors and/or juries would convict (e.g., Spanos, Myers, DuBreuil, & Pawlak, 1992-1993). Moreover, in some of these studies subjects tended to believe the eyewitness despite clear evidence that the eyewitness identifications were probably unreliable (e.g., Loftus, 1979). In these studies, however, subjects rarely saw complete videotaped simulations of a trial, were rarely given the opportunity to deliberate in groups to unanimous or majority verdicts, and did not see actual witnesses. Earlier simulations often had mock jurors read brief descriptions of the case, sometimes used actors to play the role of the eyewitness, rarely included lawyers' arguments or judicial instructions, rarely gave jurors the opportunity to deliberate to a verdict, and in some cases the eyewitness identification evidence was presented in a different mode than the

other testimony thereby increasing the salience of the eyewitness testimony. Many of these factors have been shown to influence outcome in jury simulation studies. For example, from a review of the literature, MacCoun and Kerr (1988) concluded that juries often show a leniency bias in favour of the defendant following their deliberations. That is, they are more likely to acquit the defendant after deliberations than before deliberations. Cutler et al. (1988) argued that unrealistic scenarios create a statistical artifact because they overemphasize the impact of the manipulated variable. Today anything less than a complete videotaped simulation involving all of the components of an actual trial is generally unacceptable.

Presently, jury studies typically focus on delineating the factors which influence jury assessments of eyewitness identification (e.g., Cutler, et al., 1987) and have failed to include no-eyewitness control cases. The impact of eyewitness identification evidence has yet to be reexamined using these more complex simulation paradigms. Our findings suggest that eyewitness identification evidence, at least under some circumstances, may not be as influential as previously thought. When embedded in a complex case involving physical evidence and other witness testimonies eyewitness testimony in the present study was relatively uninfluential in effecting final verdicts.

Spanos et al. (1992-1993) found that jurors' perceptions of eyewitness testimony retrospectively affected their assessments of the physical evidence. Mock jurors who saw an eyewitness assigned more weight to the physical evidence than did jurors who did not see the eyewitness. These findings are consistent with those of other studies which have found that jurors' perceptions of eyewitness testimony generalized to their

perceptions of other witnesses in the trial (Greene et al., 1989). In the present study jurors saw the eyewitness before they heard testimony concerning the physical evidence. Jurors' perceptions of the eyewitness testimony may have influenced the weight that they assigned to the other witness testimonies and to the physical evidence. To indirectly assess this hypothesis jurors were divided into those who tended to believe that the defendant was guilty after seeing the eyewitness (i.e., believed the eyewitness) and those jurors who tended to believe that the defendant was not guilty after seeing the eyewitness testimony (i.e., disbelieved the eyewitness). Examination of jurors private beliefs assessed after presentation of the physical evidence supported this hypothesis. Jurors who disbelieved the eyewitness maintained lower guilt ratings after seeing the physical evidence ($M_{pb} < -1$) than did jurors who believed the eyewitness ($M_{pb} > +1$). These findings indicate that jurors assessments of the eyewitness also influenced their perceptions of the physical evidence in the case.

As in other studies jurors' perceptions of eyewitness confidence were related to their perceptions of the accuracy of witness identifications. Witnesses who were perceived as more confident were also perceived as more accurate. Moreover, this relationship held both for subjects who saw an expert witness testify about the unreliability of human memory and for subjects who did not see the expert witness. Also hypnosis and pretrial preparation did not influence the magnitude of this relation.

Effects of Expert Testimony

Questionnaire studies that assessed subjects knowledge of the factors which

influence eyewitness identification accuracy indicated that subjects were unaware of many of the mediators of identification accuracy (Deffenbacher & Loftus, 1982; Yarmey & Jones, 1983). Moreover, several mock jury studies now indicate that in reaching their verdicts jurors often fail to consider numerous variables that have been shown to reliably influence eyewitness identification accuracy (Cutler et al., 1988; Cutler, Penrod, & Dexter, 1990). Studies which have examined subjects' knowledge concerning the effects of hypnotic recall procedures also tend to indicate that subjects hold several misconceptions about such techniques (Labelle et al., 1990; McConkey & Jupp, 1985). Consequently, several investigators have argued that expert testimony should be admitted in the courtroom to educate jurors about the complexity of human memory (Loftus & Loftus, 1983).

In the present study the expert witness factor had the most substantial impact on assessments of the defendant's guilt. Most of the juries returned unanimously not-guilty verdicts. However, of the five juries that were declared hung, four did not see the expert witness. This effect probably failed to reach significance because of the overwhelming tendency for juries to acquit. At the level of individual jurors, predeliberation verdicts showed the same pattern. Before deliberating jurors who did not see the expert voted to convict the defendant significantly more often than did jurors who saw the expert witness. Together, these findings suggest that the expert was at least somewhat successful in curtailing the influence of the eyewitness identification evidence in the trial.

These findings are consistent with a growing body of mock jury research which

indicates that expert testimony is at least somewhat effective in discrediting the testimony of an eyewitness. Spanos, Gwynn, and Terrade (1989) found that jurors who saw an expert witness examined concerning the unreliability of hypnosis and human memory voted to convict the defendant more often at pre- and post-deliberation than did jurors in the control condition. In contrast to Spanos et al., the present study allowed for a comparison between the guilt ratings of jurors who saw an expert witness who testified only about the unreliability of human memory and of jurors who saw an expert who testified both about human memory and hypnotic recall techniques. The hypnosis and expert factors did not interact to influence juror verdicts suggesting that the most influential aspect of the expert testimony was the testimony concerning the unreliability of human memory rather than the testimony concerning hypnosis.

Interestingly, the expert witness did not influence juror's assessments of witness identification accuracy or the correlation between jurors' perceptions of confidence and accuracy. These null effects suggest that the expert's influence may have generated a general leniency bias in favour of the Defense.

Effects of Pretrial Preparation

Half of the juries saw eyewitnesses who had been given feedback on their responses to mock prosecution and defense questions and who had received instructions designed to increase their confidence on the witness stand. The remaining juries saw eyewitnesses who were unprepared.

Pretrial preparation did not influence jury or juror verdicts. However, preparation

did influence juror's private beliefs in the defendant's guilt. Jurors' private beliefs in the defendant's guilt decreased significantly after they saw the unprepared witness. In contrast, jurors who saw the prepared witnesses maintained their beliefs in the defendant's guilt after seeing the eyewitness. After deliberating the private beliefs of jurors who saw the prepared and unprepared witnesses did not differ. Again, this null effect at the end of deliberations may be due to the relatively weak case presented by the Prosecution. In a case involving stronger evidence the effect for preparation may have been maintained at the end of deliberations.

Preparation also influenced jurors' perceptions of eyewitness confidence and accuracy. Jurors who saw the prepared witnesses rated these witnesses as more confident and accurate in their lineup identifications than did jurors who saw unprepared witnesses. These findings are consistent with those of two other studies (Lindsay et al., 1987; Spanos, Quigley et al., 1991) which found that witnesses who received some variant of pretrial preparation rated themselves or were rated by others as more confident than control subjects. However, they also extend these findings by demonstrating that preparation influenced jurors' assessments of the eyewitness in the context of an entire trial in which jurors saw both the direct- and cross-examination of the eyewitness.

There is also some evidence which suggests that pretrial preparation mediated the effects of the expert witness. Pretrial preparation interacted with the expert witness factor to influence jurors' private beliefs in the defendant's guilt. The private beliefs of jurors who saw the prepared eyewitnesses were not significantly influenced by the

expert witness. However, the expert witness did influence the private beliefs of jurors who saw the unprepared witness and particularly the beliefs of those jurors who saw the nonhypnotic/unprepared witness. Jurors who saw the expert witness and the unprepared eyewitness showed lower private beliefs in the defendant's guilt than did jurors who did not see the expert witness.

Effects of Hypnosis

Frequently cited is the criticism that hypnotic testimony should be ruled inadmissible because jurors may be overimpressed by such testimony (Diamond, 1980; Laurence & Perry, 1986; Orne, 1979). The present study offered no support for this hypothesis. Jurors who saw the hypnotic eyewitnesses voted to acquit the defendant as frequently as did jurors who saw the nonhypnotic witnesses. These findings are consistent with those of Spanos, Gwynn, and Terrade (1989) and Greene et al. (1989) who found the same pattern of results using samples of mock jurors who tried cases involving hypnotic or nonhypnotic witnesses. However, in assessing verdicts all three of these jury studies suffered from ceiling effects. In two of these studies (including the present study) there were high rates of acquittal and in the third study there were high rates of conviction. When evaluated together these studies suggest that jurors neither place more weight or less weight on hypnotic testimony in determining guilt. Greene et al.'s (1989) findings suggest that jurors hypnotic testimony does not increase the frequency of acquittals, whereas, the findings of Spanos, Gwynn, and Terrade (1989) and those of the present study suggest that hypnotic testimony does not increase the frequency of convictions.

Further arguments against admitting hypnotic testimony hold that hypnotic subjects become overly confident in their testimonies. Again, we failed to find any support for the notion that jurors perceive hypnotics to be more confident and/or accurate in their identification than nonhypnotics. Jurors rated hypnotics and nonhypnotics equivalently on identification accuracy and confidence.

Perceptions of Accuracy and Confidence

Jurors' perceptions of the confidence witnesses held in their identifications were correlated with jurors' perceptions of witness accuracy. Jurors' perceptions of witness confidence were significantly correlated with juror's private beliefs in the defendant's guilt but only slightly correlated with juror verdicts. Findings from other mock jury studies have consistently demonstrated that perceptions of eyewitness confidence usually predict verdicts to some degree. Nonetheless, the magnitude of these relations has varied substantially. In some studies in which eyewitness confidence was artificially manipulated in conjunction with various aspects of the witnessing conditions confidence has contributed as little as 2% of the variance to predicting verdicts (Cutler et al., 1988). However, in other studies in which jurors rated eyewitnesses to staged crimes jurors' perceptions of the witness' confidence predicted substantially more of the variance in verdicts (e.g., .08 - .25; Lindsay et al., 1989; Wells et al., 1981).

The magnitude of the relation between perceptions of confidence and verdicts may be moderated by the complexity of the trial. Jurors probably use whatever information they have available to them in determining their verdicts. In studies in

which the central piece of evidence was the identification evidence proffered by the eyewitness jurors may have had no choice but to rely on the confidence displayed by the eyewitness to reach a verdict. In cases involving physical evidence jurors may rely more heavily on this evidence in reaching their verdicts and thus the relationship between perceptions of confidence and verdicts would be diminished. Along these lines, the evidence provided in the present case may have been the primary basis on which jurors decided their verdicts. Unfortunately this hypothesis could not be adequately tested because jurors in the present study did not rate their beliefs concerning the physical evidence.

General Discussion

When initial arguments against the admission of hypnotic testimony began to appear there was little empirical evidence to support the assertions that hypnotic testimony was unreliable, that hypnotic subjects were more confident in their misidentifications than nonhypnotics, or that hypnotics were more resistant to cross-examination than nonhypnotics (see for example Diamond, 1980). Arguments such as these were the impetus for a now large body of research which has attempted to examine these issues. Nonetheless most of these studies examined issues related to the reliability of hypnotic testimony in forensically meaningless settings and few studies examined the corresponding impact of hypnosis on jurors' perceptions of eyewitness testimony. The present series of studies examined these issues in a context which more closely resembled the judicial situation. The results of these studies suggest that contextual variables influence and often override the effects of

hypnotic procedures on eyewitness testimony and on the manner in which jurors evaluate eyewitness testimony.

The only variable over which hypnosis exerted an impact was eyewitness' self-evaluations of the confidence they held in their identification during the interrogation phase of Experiment 1. Hypnotic witnesses were more confident, but no more accurate, in their identifications after receiving their recall strategies than were nonhypnotics. However, when examined and cross-examined in a courtroom context, hypnotic and nonhypnotic subjects did not differ in the degree to which they confidently identified the offender. Moreover, hypnotic witnesses were judged by mock jurors to be as confident and accurate in their identifications as were nonhypnotic witnesses. These findings suggest that previous generalizations about the certainty hypnotic witnesses display in their in-court identifications which were drawn from the findings of studies that did not consider situational and contextual variables may have been unwarranted.

Hypnotic identifications were as reliable as nonhypnotic identifications, hypnotic witnesses were as likely to be misled as nonhypnotic witnesses, and in a courtroom context hypnotic and nonhypnotic witnesses did not differ in the degree of certainty they held in their identifications. Moreover the findings indicated that jurors did not place more weight on hypnotic eyewitness testimony than on nonhypnotic testimony nor did jurors differ in their perceptions of the confidence and accuracy displayed by hypnotic and nonhypnotic witnesses.

The courts have entertained and used as a basis for rulings of inadmissibility

arguments that hypnosis increases witness confidence and immunizes witnesses against discreditation during cross-examination. The findings from the present study provided no empirical support for such arguments. However, the findings did indicate that pretrial preparation had a substantial impact on these variables. Witnesses who were given confidence boosting instructions and feedback on their responses to mock examination questions before they testified in court were more confident in their identifications and were more resistant to discreditation during cross-examination than were unprepared witnesses. Moreover, mock jurors perceived prepared witnesses to be more confident and accurate in their identifications than unprepared witnesses. Nonetheless, pretrial preparation procedures are encouraged, are considered legally and ethically legitimate by judicial personnel, and have not received the same judicial scrutiny as hypnosis.

Implications for Criminal Investigators

Findings from Experiment 1 indicated that hypnotic procedures were no more effective than nonhypnotic procedures at enhancing eyewitness identification accuracy. Thus investigating officers should consider using nonhypnotic alternatives, such as Geiselman's (1985) cognitive interview, to enhance the accuracy of eyewitness identifications and avoid the risk that hypnotically recalled information, and in some States pre and posthypnotically recalled details, be ruled inadmissible. The confidence witnesses hold in their out-of-court identifications probably influences the degree of vigour with which police and prosecutors pursue charges and/or criminal proceedings in cases. Assuming that the appeal of hypnosis will not be so easily curtailed

investigators should be alerted to the fact that hypnosis may inflate the precourt identification confidence of some witnesses.

Implications for Judicial Proceedings

The findings from the present studies have important implications concerning the treatment of hypnosis and eyewitness confidence in the courtroom. First, the findings that hypnotic and nonhypnotic subjects did not differ on identification accuracy or in-court identification accuracy suggest that hypnotic identification evidence should not be so readily dismissed as inadmissible. Second, the findings suggest that judicial instructions, such as those given in *Neil vs. Biggers* (1972), should refrain from instructing jurors to rely on confidence as an index of eyewitness reliability and credibility because (a) as in other studies the relationship between identification accuracy and eyewitness confidence was weak and (b) pretrial preparation artificially boosted the confidence witnesses held in their identifications and decreased the effectiveness of the cross-examination. Third, these findings suggest that expert witnesses who testify concerning the unreliability of human memory and eyewitness identification should consider addressing issues concerning the impact of pretrial preparation on eyewitness testimony.

Future Research

The findings of the present studies suggest several promising avenues for follow-up research projects. These are expanded on briefly below.

Eyewitness testimony. As mentioned previously the notion that eyewitness testimony is highly influential is generally accepted within the scientific community.

However, the findings from the present study suggest that the impact of eyewitness testimony may have been overstated. In many of the previous studies eyewitness testimony was made particularly salient. For example, the eyewitness was presented in a different modality than the other evidence (e.g., Spanos, Myers, DuBreuil, & Pawlak, 1992-1993) or the eyewitness testimony was the only evidence presented (Loftus, 1974). Future research should examine impact of eyewitness testimony in the context of more complex cases while varying the strength of the physical evidence and the quantity of other witness testimonies (i.e., trial complexity). Under these circumstances the relations between jurors' perceptions of eyewitness confidence, their perceptions of physical evidence, and the impact of eyewitness testimony could be examined.

Pretrial preparation. The present study found that pretrial preparation influenced witness' certainty in their identifications, jurors' perceptions of witness confidence and accuracy, and mediated the influence of expert testimony. It would be interesting in future research to assess the relative impact of several different pretrial preparation strategies (e.g., reviewing statements, confidence boosting instructions, mock questioning) and to delineate the aspects of pretrial preparation strategies that influence witness' self-perceptions and that influence jurors' perceptions of witness confidence and accuracy. Relatedly, it would be interesting to assess the relative impact of preparation on jurors' assessments of veridical details which witnesses report and details which witnesses report as veridical but that were in fact falsely suggested.

Carryover effects. Some studies now indicate that jurors' perceptions of eyewitness evidence influence their perceptions of other trial evidence (Saunders, Vidmar, & Hewitt, 1983; Spanos, Myers, DuBreuil, & Pawlak, 1992-1993). Tentative findings from the present study suggest that jurors who perceived the eyewitness to be credible also more positively evaluated the subsequently presented evidence than did jurors' who negatively evaluated the eyewitness testimony. According to these findings jurors' evaluations of the physical evidence were to some extent dependent upon their evaluations of the eyewitness testimony. It would be beneficial in future research to examine the carryover effects of jurors' perceptions of eyewitness testimony to other evidence and testimonies while manipulating the credibility of the witness testimony and the strength of the physical evidence.

Expert testimony. As mentioned previously the present study obtained some support for the hypothesis that pretrial preparation mediated the effects of the expert testimony. Using a more ambiguous trial scenario it would be interesting to examine the interaction between various preparation strategies and different types of expert testimony. For example, it would be interesting to examine the effects of having an expert testify concerning the influence of preparation strategies on witness confidence and resistance to cross-examination.

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Appendix A**Transcript of Audiotape****(Session One)**

"You have just been a witness to a shooting incident. As this case bears heavily on a real situation, it is important for us to be able to determine, to the greatest extent possible, all of the details of the event you have just witnessed. We'd like you to place yourself in the position of an eyewitness to this shooting, as if you were in the parking lot when it happened. What we'd like you to do, for the next five minutes, is describe just what you think that you would do in the ten minutes or so from the time the video ended, until the police arrived at the scene. You will have five minutes to write down, in as much detail as you can, everything that you would do, and be thinking and feeling, during that ten or so minutes. Please begin now.

-----FIVE MINUTE PAUSE-----

"We'd like you to take thirty seconds or so to think about the film. Please do this with your eyes closed. We'd like you to think about everything that happened in the film, from beginning to end, being as detailed as possible. So, please close your eyes, and think about the film."

-----THIRTY SECOND PAUSE-----

"Please open your eyes, turn the page in the questionnaire booklet, and on the sheet in front of you, describe in as much detail as possible everything that happened in the film. You will have about two minutes to do this."

-----TWO MINUTE PAUSE-----

"OK, that's all. Again please close your eyes. We'd like you to take thirty seconds to think about what the offender in the film looked like. Please think about the offender's description, including what the offender was wearing."

-----THIRTY SECOND PAUSE-----

"Please open your eyes, turn the page in the questionnaire booklet and, on the sheet in front of you, write down in as much detail as possible the offender's description from the neck up, including what was worn. You will have one minute to do this."

-----ONE MINUTE PAUSE-----

Appendix B**Confidence Ratings**

How confident are you that the mugshot you chose is the offender? (Please circle one number only)

0	1	2	3	4	5	6
not at all confident						completely confident

OR

How confident are you that none of the photos you have seen portray the offender from the film? (Please circle one number only)

0	1	2	3	4	5	6
not at all confident						completely confident

Appendix C**Misleading Questions
(Imagery Conditions)**

- 1a) Did you notice that the offender was wearing cowboy boots?

If the subjects answers 'yes' go on to question #2.

If the subjects answers 'no', experimenter responds with:

- 1b) Take a moment and zero in on the offenders feet. Can you remember now seeing the offenders cowboy boots?

Go on to question 2.

- 2a) Did you notice that the offender was wearing a red baseball cap?

If the subjects answers 'yes' go on to question #2.

If the subjects answers 'no', experimenter responds with:

- 2b) Take a moment and zero in on the offenders head. Can you remember now seeing the offenders red baseball cap?

**Misleading Questions
(Non-imagery conditions)**

- 1a) Did you notice that the offender was wearing cowboy boots?**

If the subjects answers 'yes' go on to question #2.

If the subjects answers 'no', experimenter responds with:

- 1b) Take a moment and think about the offenders feet. Now, can you remember seeing the offenders cowboy boots?**

Go to question 2.

- 2a) Did you notice that the offender was wearing a red baseball cap?**

If the subjects answers 'yes' go on to question #2.

If the subjects answers 'no', experimenter responds with:

- 2b) Take a moment and think about the offenders head. Now, can you remember seeing the offenders red baseball cap?**

Appendix D

Recall Instructions

Introduction (Hypnotic Conditions)

Quite often, when a person has witnessed a crime such as you did in the last session, hypnosis is used by the police to refresh their memories of the event. Investigators have found that the use of hypnosis has helped witnesses to recall many aspects of the event which they may not otherwise recall. We'd like you to relax, and make yourself as comfortable as possible, while you listen to this short tape-recorded hypnotic induction, followed by a suggestion for mentally "reliving" the event you witnessed in the last session. Following the tape, while you are still hypnotized, you will again be instructed to answer a few questions pertaining to the event.

Introduction (Imagery conditions)

Quite often, when a person has witnessed a crime such as you did in the last session, the police use relaxation and imagery techniques to refresh the witness' memories of the event. Investigators have found that these techniques have helped witnesses to recall many aspects of the event which they may not otherwise recall. We'd like you to relax, and make yourself as comfortable as possible, while you listen to tape-recorded suggestions for mentally "reliving" the event you witnessed in the last session. Following the tape, you will be asked to answer a few questions about the event. When people forget events, the forgotten material is not lost from memory. Instead, it is placed into unconscious memory storage. Various procedures have been found to be successful at tapping into the unconscious memory store and enabling people to recall the forgotten material. One of the most powerful of these memory reinstatement procedures is called memory enhancing mnemonic reinstatement. This procedure is based on the principal that imagining a situation vividly reinstates cues that were present during the original event. These reinstated cues then trigger the forgotten details stored in the unconscious and bring these details into consciousness. During the procedure you will be asked to go back in your imagination to the videotaped murder that you witnessed. You will be asked to vividly replay this event in your imagination. By recreating this situation in imagination the cues generated by your imagery will cause you to remember the events much more vividly and in much more detail than you did before.

Introduction (Control condition)

Quite often, when a person has witnessed a crime such as you did in the last session, the police interview the witness a number of times about the event. When people forget events, the forgotten material is not lost from memory. Instead, it is placed into unconscious memory storage. Various procedures have been found to be successful at tapping into the unconscious memory store and enabling people to recall the forgotten material. Investigators have found that repeatedly asking witnesses to recall aspects of the event enables them to recall details which they may not otherwise recall. "During the session today, we'll be asking you to think back and to describe certain aspects of the crime film you saw in the last session. Today, however, we won't be showing you the film beforehand. We'll just start by asking you to get as comfortable as you can in your chairs, and listen closely to the tape we'll be playing."

Imagery-based Reliving Instructions

Now, in order to refresh your memory for the details of the film you saw, I would like you to mentally place yourself back in the other room and vividly imagine the film of the murder in all of its detail. A person's mind is like a videotape recorder that stores everything that it sees. Sometimes, however, it is difficult to remember what is stored in memory. However, opening your mind, eliminating distractions, and placing yourself mentally back in the situation where you originally saw an event acts like pushing the playback button on a videotape recorder and allows you to vividly imagine and remember the situation in all of its original detail. Also while you are playing an event back in your mind, you can stop the action just like with a video recorder, and then zoom in on the details of what you saw. In this way you can actually remember details that you didn't even notice when the event first happened. OK, now just take yourself back to the other room in which you saw the film. Imagine everything with your mind's eye just like it happened before. Let your mind place you back in that room sitting again in front of the TV screen. In a moment I will ask you to imagine the murder that you saw earlier. When I do, let your memory work like a video playback recorder and imagine the situation vividly and in all of its detail. If something seems unclear, just stop your image in midstream like the freeze frame of a video recorder. Then zoom in on your image and examine all of the details carefully. Zoom in like this as often as you like. Make sure that you zoom in on the offender's face so that you can get a good look at him, but also zoom in on any other parts of the film that are important for you to report on. OK, now relax open your mind, take yourself back mentally to the time and place where you saw the murder film, and imagine that film from beginning to end in all its detail. In a few moments I will take you to another room where you will meet another experimenter who will ask you to identify the offender from a series of mugshots. When I touch you on the shoulder, you will open your eyes and I will take you to another room where you will meet another experimenter. You will remain deeply hypnotized, and you will still have an enhanced ability to identify the offender if he is present among the mugshots you will be shown. The hypnotic suggestions for reliving the criminal event that you received will enable you to get a clear image of the offender, and will allow you

to make a correct identification of the offender if he is in the mugshot lineup.

Hypnotic Induction

Your ability to be hypnotized depends entirely on your willingness to cooperate. It has nothing to do with your intelligence. As for your willpower, if you want to, you can pay no attention to me and remain awake all the time. On the other hand, if you pay close attention to what I say, and follow what I tell you, you can easily fall into a hypnotic sleep. Hypnosis is nothing fearful or mysterious. It is merely a state of strong interest in some particular thing. In a sense, you are hypnotized whenever you see a good show and forget you are part of the audience, and instead feel part of the story. Your cooperation and interest are all I ask for. Your ability to be hypnotized is a measure of your willingness to cooperate. Nothing will be done that will in any way cause you the least embarrassment. Now relax and make yourself entirely comfortable. Relax completely. Relax every muscle of your body. Relax the muscles of your legs. Relax the muscles of your arms. Make yourself perfectly comfortable. Let yourself be limp. Relax more and more, more and more. Relax completely. Relax completely. Relax completely. Relax completely. Your legs feel heavy and limp, heavy and limp. Your arms are heavy, heavy, heavy, heavy as lead. Your whole body feels heavy. Heavier and heavier. You feel tired and sleepy, tired and sleepy, you feel drowsy and sleepy, drowsy and sleep. Your breathing is becoming slow and regular. Slow and regular. You feel pleasantly drowsy and sleepy as you continue to listen to my voice. Just keep your thoughts on what I am saying. You are going to get much more drowsy and sleepy. Soon you will be deep asleep, but you will have no trouble hearing me. You will not wake-up until I tell you to do so. Remember that the dangers of hypnosis are a myth. Nothing will be done that is in any way harmful to you. I shall now begin to count. At each count you will feel yourself going down, down, down into a deep, comfortable, a deep restful sleep. A sleep in which you will be able to do all sorts of things that I ask you to do. One...you are going to go deeply asleep. Two....down, down into a deep sound sleep. Three....Four....more and more, more and more asleep. Five....Six....Seven....you are sinking, sinking into a deep, deep sleep. Nothing will disturb you. Pay attention only to my voice and things I tell you. Eight....Nine....Ten....deep asleep. You will not awaken until I tell you to do so. You will wish to sleep and have the experiences I shall presently describe. You are feeling comfortable and relaxed, comfortable and relaxed. You are in a deep, sound sleep. A deep, sound sleep. Fully prepared to respond to and experience what I will ask you to do. Now that you are deeply hypnotized, you will be able to recall the events of the film you saw in the last session much more clearly and vividly. When I ask you to think back, the events of the film will be clear and vivid in your mind and you will be able to relate a detailed description of everything that occurred. By recreating this situation in imagination the cues generated by your imagery will cause you to remember the events much more vividly and in much more detail than you did before. At several points, I will be asking you to open your eyes, and answer a questionnaire. You will be able to do this easily, while remaining deeply hypnotized.

Hypnotic Wake-up Procedure

In a few seconds, I will be counting backwards from five to one. With each count, you will feel yourself becoming more and more awake. When I reach one, you will be wide awake, feeling relaxed, refreshed, and in a pleasant mood. I will now begin to count. Five....starting to wake. Four....more and more awake. Three....still more and more awake. Two....becoming more and more awake. One....Wide awake. Open your eyes, wide awake.

Appendix E

Pretrial Preparation

I don't want to put words in your mouth, but I do want to give you some pointers about how to conduct yourself when you testify. First, it is important that you answer all of the questions that I ask you fully. Speak in complete sentences, and present yourself confidently. Remember, the jury who sees your tape will be judging you on your manner and appearance. OK, let's just rehearse how you will handle my questions.

First I'll show you this picture (hold up picture) and ask: Mr/Ms/Mrs _____, do you recognize the defendant? What will you say? (Following subject's answer, provide feedback and ask the same question once again. If necessary, repeat this procedure still a third time. If no feedback is necessary, reward with "That's good".)

Please tell me where you saw this man. What were the circumstances? (Feedback)

Are you certain that the man in this picture is the man that you saw do the shooting (Feedback) OK, so far so good.

Once I have finished asking you questions you will be cross-examined. Now, the person who cross-examines you will be looking for weaknesses. She will try to get you to admit that you really aren't sure about what and who you saw. It's their job to defend the defendant, and to do that they will try to discredit your testimony. During the cross-examination just relax, stay confident, and just let yourself be reassured that you know what you saw. After all, you saw the shooting, the cross-examiner did not. So, don't let yourself be intimidated by the cross-examiner. Just look them straight in the eye when you answer the questions. Don't try to fool them in any way, and don't try to be sarcastic. Be polite but firm. Just let them know honestly what and who you saw, and don't let them plant any doubts in your mind. OK, now let's pretend I'm cross-examining you. You answer me the way you would answer him. Remember, stay calm and maintain a confident, self-assured stance all the way through.

Mr/Ms/Mrs _____, you testified that you saw the defendant (hold up picture) shoot Mr. Harris. Are you absolutely certain that this is the man that you saw do the shooting? (Feedback)

Couldn't it be possible that you are mistaken about his being the right man? (Feedback)

We know that the man who did the shooting was wearing a baseball cap. The cap must have blocked the killer's face didn't it? (Feedback)

How can you be sure that this is the killer if his face was partly block by a cap? (Feedback)

The shooting incident only took a few seconds, and it occurred unexpectedly. If you only saw the killer for a few seconds, your memory of him can't be very good, can it? (Feedback)

Isn't it true that you really aren't all that sure that the defendant is the killer you saw? (Feedback)

You're really positive that the defendant the killer that you saw, are you? (Feedback)

Appendix F**Direct and Cross-examination Protocol****Direct-examination**

1. Mr/Ms/Mrs _____, do you recognize the defendant?
2. Please tell me where you saw this man. What were the circumstances?
3. Are you certain that the defendant is the man that you saw do the shooting.

Cross-examination

1. Mr/Ms/Mrs _____, you testified that you saw the defendant shoot Mr. Harris. Are you absolutely sure that this is the person you saw do the shooting?
2. Isn't it possible that you have made a mistake and that this isn't the man you saw?
3. The killer was wearing a baseball cap that blocked his face, wasn't he?
4. How do you know that the defendant here is the man you saw if the killer's face was even partially blocked by a cap?
5. You didn't expect a shooting that day and the whole thing took only a few seconds. Since you only saw the killer for a few seconds, your memory of him can't be very clear, can it?

Appendix G

Duties of the Foreperson
(Foreperson is to read these instructions aloud to the jury)

Before beginning any deliberations I, as foreperson, will tally the jury for their opinions concerning the guilt or innocence of the defendant. I will do this by asking all of the jurors to indicate on their ballot if they believe the defendant to be guilty or not guilty. I as the foreperson will also participate in this vote by indicating on my ballot if I think that the defendant is guilty or not guilty. Afterwards, the deliberations will begin and will continue until we reach a unanimous decision concerning the guilt or innocence of the defendant. At various times during the deliberations, i will tally the jury for their opinions concerning the guilt or innocence of the defendant. We can take as many tallies as we need in order to reach a unanimous decision.

Appendix H

Private Belief

The scale below assesses your private and personal belief about whether you think that Mr. Russell is guilty of murder. This scale is not asking you whether you believe that the evidence is sufficient to find the defendant guilty in a court of law. Instead, it is simply asking you for your personal opinion concerning whether or not the defendant is guilty of murdering Mr. Harris.

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+	5
Certain the				Unsure		Certain the defendant					
is						defendant is NOT GUILTY					
						GUILTY					

Appendix I**Perceptions of the Eyewitness**

This questionnaire concerns the extent to which you felt the testimonies of expert witness was credible. Please rate the credibility of the expert on the scale below. Please circle only one number.

Expert Witness was:

1	2	3	4	5	6	7
Not		Somewhat			Very	
Credible		Credible			Credible	

Appendix J**OPENING STATEMENTS****Judge**

Ladies and gentlemen of the jury, in the trial you will hear today the Crown has charged Mr. John Russell with the second degree murder of Mr. Irving Harris. During the trial you will see presentations of the case by both the Prosecution and the Defense. The trial will begin with opening statements, first, by the Prosecuting attorney and then by the defense attorney. Following these opening statements you will observe the testimony of a series of witnesses called by the Prosecution. Each of these witnesses will first be examined by the Prosecuting attorney and then cross-examined by the Defense attorney. After the Prosecution has completed presenting its case, you will see the witnesses called by the Defense. Each of these witnesses will first be examined by the Defense attorney and then cross-examined by the attorney for the Prosecution.

Members of the jury, in our legal system a defendant is presumed to be innocent until a jury of his peers hears all of the relevant evidence, deliberates on this evidence and then finds him guilty beyond a reasonable doubt. Therefore, it is very important that you keep an open mind throughout the whole trial and do not make a decision in this case prematurely. You will have ample time to carefully weigh the evidence and deliberate to a verdict after all of the evidence has been presented. It is important that you do not prematurely reach a verdict before this time. Ladies and gentlemen of the Jury, murder is defined in the Canadian Criminal code as one type of Culpable Homicide. A person commits homicide when, directly or indirectly, by any means, he causes the death of a human being. Not all homicide is culpable. A person commits culpable homicide when he causes the death of a human being by means of an unlawful act. Culpable homicide is murder where the person who causes the death of a human being (1) means to cause his death, or (2) means to cause him bodily harm that he knows is likely to cause his death.

Members of the Jury, let me caution you once again that the defendant is presumed innocent of the charges against him, and that you are to listen to all of the evidence with an open mind. You will have ample opportunity to deliberate on the evidence and to reach your conclusions after all of the evidence has been presented to you. The prosecuting attorney will now present her opening statement.

Prosecution

Ladies and Gentlemen of the Jury, this case is really very simple. The Crown will prove beyond a reasonable doubt that on September 9th of last year Mr John Russell, the defendant in this case, murdered Mr Irving Harris. Now Irving Harris was not an exemplary citizen. He was a hoodlum, a loan shark, and he had a criminal record. Nevertheless, he did not deserve to die, and Mr. Russell had no right to kill him. Why did Mr Russell kill Irving Harris? Why last September did Mr. Russell step from his car, approach Mr. Harris from behind, and shoot him in the back of the head in cold blood?

Ladies and gentlemen, the record will show that Mr. Russell was in debt and was unable to borrow any more money from the bank in order to pay off his debts. He was desperate, and about to lose the business he had worked for years to build. Because the banks would not loan money to Mr. Russell he borrowed it from Mr. Harris, a loan shark. In order to get the loan he agreed to pay Mr. Harris a very large rate of interest. Mr. Russell used the \$25000 dollars he borrowed from Mr. Jones to pay off his creditors and keep his business. However, the business did not do as well as expected and Mr. Russell was unable to pay back all of the original loan or the extra \$10000 dollars in interest that had accumulated. Mr. Harris insisted that Mr. Russell sign over his business in order to make good his debt. When Mr. Russell refused to do this, Mr. Harris threatened to have Mr. Russell beaten up. Mr. Russell was desperate. However, instead of going to the police, he took matters into his own hands and, on September 9th he murdered Mr Harris in cold blood.

Unfortunately for Mr. Russell, an eyewitness was at the scene of the crime. The eyewitness saw Mr. Russell get out of his car, approach Mr. Harris from behind, and, as Mr. Harris fumbled with his car keys, the witness saw Mr. Russell Shoot Mr Harris in the head, get back in his own car and drive away. Ladies and Gentlemen, you will hear that eyewitness testify under oath to all of these facts. After the murder the police searched Mr. Harris' office and found a list of people who owed him money. Mr. Russell's name was on that list. The police went to Mr. Russell's business and asked him about his whereabouts on the day of the murder. Mr. Russell was unable to provide a convincing alibi and insisted lamely that he had been at home alone in bed the morning that Mr. Harris was murdered.

Ladies and gentlemen, the bullet that killed Mr. Harris was a 38 Calibre slug fired a close range from a revolver. Mr. Russell owns a 38 calibre revolver which the police confiscated as evidence when they questioned him. The eyewitness to the murder then picked Mr. Russell out of a line up and positively identified him as the man who murdered Mr. Harris.

Ladies and gentlemen, this is an open and shut case. Mr Russell had the opportunity to murder Mr. Harris, the means to murder Mr. Harris, and the motive to murder Mr. Harris. Mr. Russell was a desperate frightened man, afraid he would be beaten into giving up his business. Instead of going to the police Mr. Russell took the law into his own hands. Mr. Russell was not home alone in bed the morning of September 9th. Instead, he was in his car with his 38 calibre revolver waiting for Mr. Harris to show up. He was in a spot where he knew Mr. Harris would come and where he thought the two of them would be alone. Mr. Harris did come, and when Mr. Russell saw him he got out of his car, he walked up behind Mr. Harris and shot him in the back of the head. He murdered Mr. Harris in cold blood. However, a hidden eyewitness saw the crime and this eyewitness later picked Mr Russell out of a line up and identified him as the man who murdered Mr Harris.

Ladies and Gentlemen of the Jury, there is no reasonable doubt in this case. Mr. Russell murdered Mr. Harris in front of an eyewitness who identified him. Nothing could be clearer. Therefore I ask that you find Mr Russell guilty of Murder in the second degree. Thank you for your attention.

Defense

Ladies and gentlemen of the jury, as you have been told by the judge, in our system of justice a defendant does not have to prove that he is innocent. Instead, the defendant is presumed to be innocent until it is proved by the Crown, beyond a reasonable doubt, that he is guilty. Ladies and gentlemen, the Crown will be unable to prove that Mr. John Russell murdered Mr. Irving Harris. It will be unable to do this for a very simple reason. Mr. Russell is not guilty. Mr. Russell is not a criminal. Before the death of Mr. Harris he had never been arrested or been in any trouble with the police. Instead, he was a respected business man, well liked in the community. He is certainly not a hit man or a cold blooded murderer. Instead, he is the victim of a misidentification by a well meaning witness who simply made an error in identifying my client.

Now, as the Crown has stated, Mr. Harris was a crook. He was a slimy little loan shark who took the hard earned money of desperate people, and when these people couldn't pay him back in time he had them beaten and took all that they had. My Client, Mr. Russell fully admits that he borrowed money from Mr. Harris and that Mr. Harris threatened to have him beaten and threatened to take over his business when he had trouble repaying the loan. In this respect, however, my client is no different from a great many other people. When the police found Mr. Harris' record book it contained the names of more than 60 people who owed him money, and many of these people owed him more money than Mr. Russell. Mr. Harris was a loan shark. He was a petty crook with a long criminal record who had been convicted of previous crimes and who had spent time in jail. A great many desperate people owed Mr. Harris money, a great many people detested him. The fact that my client is one of the many people who owed money to Mr. Harris is no evidence that he killed him. A great many people detested Mr. Harris, wanted him dead, and had a motive to kill him. Any one of the very many people who owed money to Mr. Harris and who were threatened by him had as much of a motive to kill him as did my client. Not liking someone is not evidence of having killed them. A great many people disliked Mr. Harris as much or more than did my client.

When the police questioned Mr. Russell he readily admitted that he owned a gun. Mr. Russell has a permit for this gun. He was given this permit for protection because he often keeps large sums of money on his business premises. Ladies and gentlemen, there is absolutely no evidence that Mr. Russell's gun was the weapon that killed Mr. Harris. You will hear a forensic expert testify that he was unable to match the bullet fragments taken from Mr Harris' body with Mr. Russell's gun.

Ladies and gentlemen, if you carefully planned a murder would you use a gun that you had registered with the police? And then, after the killing would you simply put the gun back in your drawer and then hand it over to the police as soon as they asked for it? No, of course not. An innocent person behaves this way. A guilty person does not. Suppose you went to the trouble to carefully plan a murder. Would you be so stupid as to forget to give yourself an alibi? Of course not. When the police questioned Mr. Russell about his whereabouts at the time of the crime he said that he had slept in that morning because he had a headache and had been up late the night before. Now if Mr Russell had gone to all of the trouble to plan the murder of Mr. Harris wouldn't he at

least have had sense enough to get rid of the gun and plan himself an alibi? Of course he would have. Ladies and gentlemen, the Crown's depiction of Mr. Russell's actions makes no sense at all. Mr. Russell cooperated with the police from the beginning of the investigation. He handed over his gun immediately, he didn't lie about having a gun, and he made no attempt to concoct an alibi. These are not the actions of a guilty man. They are the actions of an innocent one.

The Crown will produce an eyewitness who identified Mr. Russell as the man who killed Mr. Harris. The witness will claim that they saw Mr. Russell come up behind Mr. Harris and shoot him. That the witness saw someone shoot Mr. Harris is not in question. What is in question is who the witness saw. Ladies and gentlemen of the jury, eyewitnesses are very often incorrect about what they see. A murder is a highly traumatic event and under these circumstances witnesses often fail to notice critical details. Frequently they are wrong about what they see, and wrong about who they think they see. The present case is one in which an eyewitness has identified the wrong person. It is important that you, the jury do not compound that error by finding an innocent man guilty of murder on the basis of what a frightened witness claimed to see while witnessing a killing.

Members of the jury, John Russell is a good man. He is not a murderer. He never killed anyone in his life and, for this reason I ask you to find him not guilty of the murder of Irving Harris.

PROSECUTION WITNESSES

Detective Timothy O'Mally Direct Examination

P. Detective O'Mally will you please state your name, occupation and relation to this case.

W. I'm Detective Timothy O'Mally of the Ottawa City police force. I was assigned to investigate the murder of Irving Harris.

P. And did you arrest the defendant in this case. John Russell for that murder?

W. Yes

P. Detective, please tell the court the circumstances that led you to arrest Mr. Russell.

W. Mr. Irving was a known loan shark and so, naturally, we began our investigation by finding out who owed him money. At his home I found a diary that contained the names and phone numbers of people who owed him money, how much they owed, and the amount of interest he charged on their loan.

P. Is this Mr. Irving's Diary? [Hand's over diary to witness]

W. Yes that's it. [Hand's it back]

P. Let the court record show that the witness just examined exhibit # 1 in this case (Pause). Alright detective, what did you do after you found the diary?

W. We began systematically to question the people who's names were in it. There were 63 names in the diary, and we interviewed each of those people One of them was John Russell. My partner and I went to Mr. Russell's place of business and questioned him about Mr. Harris. Mr. Russell admitted knowing Mr. Harris, and

also admitted that he owned a gun. When I asked him to show it to me I noted that it was a 38 Calibre, the same calibre gun used to kill Mr. Harris.

P. Is this Mr. Russell's gun? [HAND WITNESS THE GUN]

W. Yes. That's the gun that he showed me and claimed was his. [HAND BACK]

P. The record will indicate that the witness just examined exhibit # 2 in this case (Pause). Now, Detective O'Malley, did Mr. Russell admit to knowing Mr. Harris.

W. Mr. Russell admitted that he knew Harris and that he owed Harris money, but he denied killing him.

P. Did you arrest Mr. Russell at that time.

W. No. We had a witness who had seen the murder and so I arranged for a lineup to see if the witness could identify Mr. Russell.

P. And did the Witness identify Mr. Russell as the murderer?

W. Yes, the witness picked Mr. Russell out of the line up and, at that point I arrested him for the murder of Mr. Harris.

P. What about the other people whose names were in Mr. Harris' diary? Were they also suspects?

W. As I said we interviewed everyone in the diary. We also ran a check to find out if any of them owned handguns. Mr. Russell was the only one who owned a 38 calibre revolver.

P. Thank you detective. No further questions.

Cross-examination

D. Detective O'Malley, how long have you been on the Ottawa police force?

W. 8 years.

D. Eight years. By this time you must know the crime scene in this city pretty well.

W. Yes, that's true.

D. Tell me detective, were you surprised to learn that Irving Harris had been murdered?

W. No. a lot of people didn't like Harris. It was no surprise that someone finally killed him.

D. Why was Harris so unpopular.

W. He was a loan shark. He'd loan desperate people money at outrageous rates of interest. If they couldn't pay it back he would threaten to hurt them unless they came up with the money or something else of value. He bled people dry so, naturally, he was not well liked.

D. Had Mr. Harris ever been arrested?

W. Numerous times. He'd been arrested for assault, fraud, and extortion. He had an extensive criminal history.

D. Now, the diary you found in Mr. Harris' home contained the names of people from whom he was extorting money is that right?

W. That is correct.

D. And you testified that there were 63 names, is that right?

W. Yes.

D. Sixty-three names, that's a lot of enemies. Now did you recognize the names of any of the people in Mr. Harris' diary?

W. Yes. Some were people who, themselves had criminal histories.

D. Did any of the people named in Mr. Harris' book have records of committing violent crimes?

W. Yes.

D. Had any of those people ever used a gun to commit a crime?

W. Yes. Often times loan sharks loan money to other criminals, and that was the case with Mr. Harris.

D. Tell me detective, have you ever known of a criminal who used a gun that was not registered to him to commit a crime?

W. Yes.

D. In your experience, do professional killers use guns registered in their own name to commit murders.

W. No. They usually use unregistered guns, stolen guns or guns with the serial numbers removed.

D. If a professional criminal killed someone with an unregistered or stolen gun would you expect him to tell you he owned such a gun when you asked him?

W. No.

D. Had any of the criminals in Mr. Harris' diary ever used a gun that was not registered to them in the commission of a crime?

W. Yes.

D. But you didn't arrest all of those people did you?

W. Forty-one of the people in the Harris diary had prior criminal records, and 15 of those had prior records for violent crimes. We questioned those 41 people extensively, particularly the 15 with violent records. We did not arrest any of those people because we found no evidence that they had committed the crime. As I said, we had no evidence that any of those people owned a handgun, and all of them had better alibis for the time of the murder than did Mr. Russell.

D. Detective, when you questioned Mr. Russell did you ask him if he owned a gun?

W. Yes.

D. What did he answer?

W. He said yes, and told us where he kept it.

D. Was he evasive in any way, did he try at first to deny that he owned the gun?

W. No.

D. He didn't try to say that he had lost the gun or that he didn't know where it was, or that it had been stolen, did he?

W. No.

D. Thank you detective. No further questions your Honour. Re-Direct by Prosecution

P. I would like to re-direct your Honour. I have just a few additional questions for Detective O'Malley. Detective you testified that in your experience professional killers often use an unregistered or untraceable gun when committing a crime, is that

true?

W. Yes.

P. What about killings by nonprofessionals? Would you expect a person without a criminal record, who owned a gun, and who commits a murder while under stress to necessarily use a gun other than his own?

W. No. people who kill while under stress or for revenge when angry, often do not plan their crimes very well, and use whatever weapon is at hand. If they happen to own a registered gun, that's what they use.

P. Thank you detective. No further questions your Honour.

Criminalist Allen Harper Direct Examination

P. Mr. Harper, will you please given the Court your name, occupation and relation to this case.

W. My name is Allan Harper, I am a criminalist with the Forensic Laboratory of the Ottawa Police Department, and was asked to examine the bullet fragments taken from the body of Mr. Harris, and the revolver taken from Mr. Russell. I also examined tire marks found at the scene of the murder and the tires on Mr. Russell's car.

P. What did your examination of the bullet fragments reveal?

W. That they were the fragments of a 38 calibre bullet that had most likely been fired from a 38 Calibre revolver.

P. How did you determine that the bullet was fired from a revolver rather than an automatic?

W. When an automatic is fired it ejects the empty shell. A revolver does not eject the empty shell. The shell must be manually removed. There was no empty shell found at the crime scene which suggests that none was ejected and, therefore that the weapon that fired the bullet was a revolver.

P. Mr. Harper when did you receive Mr. Russell's gun for examination?

W. I examined the weapon on September 11th the day it was taken from Mr. Russell.

P. And that was two days after the murder of Mr. Harris, is that right.

W. Yes.

P. Mr. Harper what did your examination of Mr. Russell's gun reveal?

W. The gun was a 38 revolver that had been fired within the last week or so before I examined it.

P. So Mr. Russell's gun could have been the weapon that killed Mr. Harris?

W. Yes it could have been. The available evidence did not allow me to conclude that Mr. Russell's revolver was not the weapon that killed Mr. Harris.

P. Now, Mr. Harper what did your examination of the tire tracks at the murder site involve.

W. I examined the tire marks found at the scene of the murder. I photographed the tire tracks found on the pavement, at the point where the eyewitness indicated the murderer sped away. In the same location I also found an imprint of a tire tread in a dried-up puddle of mud. I was able to make a casting of this tire tread.

P. What did your examination of the tire tracks reveal?

W. That the tracks were made by Michelin Model XVG 75R 14 inch tires that were

well worn.

P. Did you examine the tires on Mr. Russell's car?

W. Yes

P. And what did this examination reveal?

W. That the tires on Mr. Russell's car were 14 inch Michelin Model XVG 75R. The tires on Mr. Russell's car were also well worn.

P. What did you conclude from your analyses of both the tire marks found at the scene of the murder and the tires on Mr. Russell's car?

W. Using the photographs and tire casting I was able to compare the tire tracks found at the murder site with the tires on Mr. Russell's car. The findings were consistent with the proposition that Mr. Russell's car could have made the tire tracks at the scene of the murder.

P. Thank you Mr. Harper. No more questions your Honour.

Cross-examination

D. Mr. Harper how can you tell if a bullet has been fired from a particular gun?

W. The bore of a pistol is grooved. When a bullet is fired from the pistol the grooves on the bore leave indentations on the bullet. These indentations are examined by firing a second bullet, called a test bullet, from the same gun. If the indentations on the test bullet match the indentations on the bullet found in the victim, then it can be concluded that the two bullets were fired from the same gun, and therefore, that the bullet taken from the victim was fired from the gun being tested.

D. Mr. Harper did you test the bullet fragments taken from Mr. Harris in this way to determine if they had been fired from Mr. Russell's gun?

W. No. It was impossible to make such a test. A whole bullet was not taken from Mr. Harris, only bullet fragments. The fragments were not large enough to allow for a test to determine the gun from which they were fired.

D. So there is no way for you to tell if Mr. Russell's gun was the one that shot Mr. Harris, is that right?

W. Yes, that's right. All I can conclude is that Mr. Russell's gun could have been the one.

D. Could any other 38 calibre revolver also have been the one?

W. Yes.

D. Mr. Harper, is it uncommon for you to examine 38 Calibre bullets that were used in shootings?

W. No, not at all. 38 Calibre handguns are used relatively commonly in shootings.

D. Are 38 calibre revolvers a common weapon in the Ottawa area.

W. Probably the most common. For instance, police officers are standardly issued 38 calibre revolvers.

D. Mr. Harper, you concluded that Mr. Russell's gun had been fired with approximately a week of Mr. Harris' murder is that correct?

W. Yes.

D. Could you determine whether Mr. Russell's gun had been fired on the day of the

murder?

W. No.

D. So as far as you could determine Mr. Russell's gun was just as likely to have been fired, 1, 2, 3, 4, 5, or even 6 days before the day of the murder as on the day of the murder, is that right?

W. Yes.

D. You determined that Mr. Russell's pistol had been fired within a week of the murder. Could it have been fired at a shooting range, or in Mr. Russell's backyard, or out in the woods?

W. I have no way to determine where the weapon was fired.

D. So Mr. Harper, is it fair to say that on the basis of your forensic evidence Mr. Russell's 38 calibre revolver is no more likely to be the gun that killed Mr. Harris than any other 38 calibre revolver that had been fired within 7 days of the crime?

W. Yes.

D. Now, Mr. Harper, are 14 inch Michelin XVG 75R a common tire?

W. Yes, the most common. The majority of North American cars have Michelin XVG tires.

D. Mr. Harper, is it uncommon for tires to become well worn?

W. No. Worn tires are not uncommon.

D. Did your examination of Mr. Russell's tires and the tire tracks at the murder site allow you to conclude that it was definitely Mr. Russell's tires that made the tracks and that no other car could have made the tire marks?

W. No. I could not make such a conclusion. All I could conclude was that Mr. Russell's tires could have made the tracks.

D. Could any other car with well-worn 14 inch Michelin XVG 75R tires also have made the tracks?

W. Yes.

D. Thank you Mr. Harper. No further questions your Honour.

Coroner James Donovan Direct Examination

P. Dr. Donovan will you please give the Court your name, occupation and relationship to this case?

W. I'm Dr. James Donovan, Coroner for the city of Ottawa. I pronounced Mr. Harris dead at the scene of the shooting and then performed the autopsy on his body.

P. On the basis of your autopsy findings did you form an opinion as to the cause of Mr. Harris death?

W. Most definitely. Mr. Harris died of massive trauma to the brain induced by a single gunshot wound to the right occiput. The bullet entered the back of Mr Harris' skull. That area of the skull is quite thick, and as it entered the head the bullet shattered against the bone of the skull and sent fragments of both the bullet and the bone throughout much of Mr. Harris' brain tissue. These fragments of bullet and bone produced massive tissue damage. Mr. Harris died instantly.

P. Could you determine the distance between Mr. Harris and his assailant.

W. When a gun is fired close to a victim it leaves powder marks on the victim. The size and pattern of the powder marks can tell us the distance between the barrel of the gun and the victim. On the basis of the powder marks on Mr. Harris' head and neck I concluded that the pistol that killed him was held within a few inches of the back of his head.

P. Thank you Dr. No further questions.

Cross-Examination

D. Dr., as I understand your testimony you did not recover a complete bullet from Mr. Harris' head, only fragments is that correct?

W. That's right. The bullet fragmented on impact with the skull.

P. Thank you Dr. No further questions.

Officer Walter Johnson Direct Examination [NO HYPNOSIS CONDITION]

P. Detective Johnson please given the Court your name occupation and relation to this case.

W. My name is Detective Walter Johnson of the Ottawa police force. I accompanied detective O'Malley to the crime scene and interviewed the eyewitness who had originally phoned in the report of the crime.

P. Please tell the Court what your interview revealed?

W. Well, as might be expected the witness was pretty shaken up by the whole experience, so I first tried to calm the witness down and then asked for a full description of what the witness had seen from the beginning of the incident until the assailant had driven away. The witness reported that the perpetrator was a middle aged Caucasian male who wore a baseball cap. The witness reported that the perpetrator left his car and approached the victim from behind and then, when close to the victim drew a gun and shot the victim in the back of the head. The witness also reported that the perpetrator got back into his car and drove away. The witness described the killer's car as being light in colour.

P. Detective, when you and your partner questioned Mr. Russell did you ask him to show you his car?

W. Yes, we wanted to see if it was a light colour.

P. And what colour was the car?

W. It was a solid light grey sedan.

P. Did you also ask Mr. Russell if he owned a baseball cap?

W. Yes, he said that he owned a blue baseball cap and showed it to us.

P. Did you talk to the eye witness on any occasion other than the day of the crime?

W. Yes. After we had determined that Mr. Russell was a suspect we asked the witness to come down to the station. We wanted to see if the witness could pick Mr. Russell out of a line up. At this time I also interviewed the witness once again.

P. Why did you interview the witness this second time?

W. Well, as I said before the witness was pretty shaken up the day of the murder. I have found that once witnesses to violent crimes have had a few days to calm down and get their thoughts in order they sometimes remember details they hadn't originally

mentioned. So for this reason I interviewed the witness a second time. I asked the witness to think back to what had happened the day of the crime and to give me as full and complete description of everything that had happened during the incident.

P. What happened after the second interview?

W. Mr. Russell came down to the station and we put him in a lineup with five other middle aged, Caucasian males.

P. Did the eyewitness pick Mr. Russell out of the line up and identify him as the man who shot Mr. Harris.

W. Yes.

P. Thank you Detective. No further questions.

Officer Walter Johnson Direct-examination [HYPNOSIS CONDITION] SAME AS NO HYPNOSIS CONDITION UP TO:

P. Why did you interview the witness this second time?

W. Well as I said before the witness was pretty shaken up the day of the murder. I have found that once witnesses to violent crimes have had a few days to calm down and get their thoughts in order they sometimes remember details they hadn't originally mentioned. This is especially true if the witness is first hypnotized. For that reason I hypnotized the witness and asked the witness to think back to what had happened the day of the crime and to give me a full and complete description of everything that happened during the incident.

P. What happened after the hypnotic interview?

W. Mr. Russell came down to the station and we put him in a line up with five other middle aged, Caucasian males.

P. Did the eyewitness pick Mr. Russell out of the line up and identify him as the man who shot Mr. Harris?

W. Yes.

P. Detective Johnson have you been trained in hypnotic interrogation?

W. Yes, I participated in two week course conducted by Dr. John Seymore. Dr. Seymore works closely with the Los Angeles police department who have a special police hypnosis interrogation unit. I went to Los Angeles and participated in the hypnosis training course given to the police officers of the Los Angeles interrogation unit.

P. How many hypnotic interrogations have you conducted?

W. Over two hundred.

P. In your experience are hypnotic interrogations effective in helping witnesses to recall what they have seen.

W. Oh yes. I have found the procedure to be extremely helpful.

P. Thank you detective, no further questions.

Cross-Examination

D. Detective Johnson, let me see if I have this right. You interviewed an eyewitness the day of the crime, is that right?

W. Yes.

D. At that time Mr. Russell was not yet a suspect, is that right?

W. Yes.

D. Then, after you decided that Mr. Russell was a suspect you interviewed the eyewitness a second time, right?

W. Yes, that's right.

Add for Hypnotic Condition

D. AND BEFORE THIS SECOND INTERVIEW YOU HYPNOTIZED THE WITNESS IS THAT RIGHT?

W. YES.

D. And it was only after this second interview [AN INTERVIEW THAT INVOLVED HYPNOSIS] that you showed the witness Mr Russell in the line up, isn't that true?

W. Yes.

D. Detective, did you tape record or videotape the second interview with the witness?

W. No.

D. Was anyone other than you and the witness present at this second interview?

W. No.

D. And before this second interview you knew that Mr. Russell was your only suspect in the case so far, right?

W. Yes.

D. Detective, isn't it true that during this second interview you asked the witness leading questions that were designed to get the witness to provide a description that corresponded to what you knew about Mr. Russell?

W. No. I didn't ask leading questions.

D. Detective, how long did this second interview last?

W. About 40 minutes.

D. About 40 minutes. Tell me detective do you have a photographic memory?

W. No. I have a normal memory.

D. Is your memory so good that you can remember every single word that you spoke to the witness during the full 40 minutes of that interview?

W. No.

D. Well if you can't remember everything you said, how do you know that you didn't ask leading questions that influenced the witness' testimony?

W. I can't remember everything I said, but I do know that I avoid asking questions during interviews that will give the witness hints about what to say.

D. Detective, either you can remember everything about what you asked during that second interview or you can't remember everything. Now, can you remember everything that you said during that interview.

W. No.

D. And it was only after this interview that you cannot completely remember. [THIS INTERVIEW THAT INVOLVED HYPNOSIS] this interview that was conducted only after Mr. Russell was a suspect, that the witness was shown a line up with Mr.

Russell in it?

W. Well, we couldn't very well show the witness a line up if we didn't have a suspect.

D. No, but what you could have done [DURING THE HYPNOSIS] was plant in the witnesses mind information about Mr. Russell that the witness could later use to pick him out of the line up, couldn't you?

P. Objection your Honour.

Judge. Objection sustained. Detective you are not to answer the last question.

Add for Hypnotic Condition

D. DETECTIVE YOU STATED THAT YOU TOOK A TWO WEEK COURSE IN HYPNOSIS, IS THAT YOUR ONLY FORMAL TRAINING IN HYPNOSIS?

W. YES.

D. YOU HAVE NEVER TAKEN ANY UNIVERSITY LEVEL COURSES IN HYPNOSIS, OR OBTAINED A UNIVERSITY DEGREE IN PSYCHOLOGY?

W. NO.

D. No further questions your Honour.

DEFENSE WITNESSES

Shooting Range Attendant William Smith Direct-examination

D. Mr. Smith please given the Court your full name and occupation.

W. William Smith. I'm an attendant at the R.A. Centre Shooting Range.

D. Do you Know John Russell?

W. Yes Mr. Russell comes to the range to practice his shooting from time to time.

D. Mr. Smith, were you on duty at the shooting Range on September 6th of last year?

W. Yes.

D. Did Mr. Russell come to the range on that date and fire his pistol.

W. Yes.

D. How can you be so sure that you saw Mr. Russell on that particular date?

W. Because he signed the register when he came in. The register has the date that everyone comes in to shoot. Shooters are required to sign in when they get to the range.

D. Let the court record indicate that I am showing the witness exhibit #4. Now, Mr. Smith, is this the register which Mr. Russell signed on that day? [HAND REGISTER TO WITNESS]

W. [FLIP THROUGH REGISTER AND POINT] Yes, this is it, see there's his name. on September 6th.

D. I have no further questions your honour.

Cross-Examination

P. I have no questions for this witness your Honour

Expert Witness: Dr. Mary Lawson Direct examination

D. Dr. Lawson, please tell the Court your name Occupation and relationship to this case.

W. My Name is Dr. Samuel Lawson. I am a forensic psychologist and Professor of Psychology at the University of British Columbia. I obtained my Ph.D. in Experimental Psychology From Washington State University, and most of my research has focused on the factors that influence Human memory, and the errors of memory. I have published over 50 research articles in professional psychological journals on topics relating to human memory and eye witnesses testimony. I was asked to testify here today for the defense in this case.

D. Dr. Is it true that when a person witnesses a crime, all of the details of the crime are stored in their mind even if they can't remember the details right away, and if they remember details or faces later that these memories are always accurate?

W. No, a person who has witnessed a crime has not necessarily stored all of the details in his or her mind. Many people believe falsely that human memory works something like a video tape recorder. They believe that everything a person sees is stored in the mind, and later remembering it is like pushing the playback button on a tape recorder. They falsely believe that everything that is remembered is remembered accurately and that everything they remember happening must have actually happened. Actually, human memory is nothing like a videotape recorder. People frequently make mistakes about what they remember because memory is very heavily influenced by peoples' beliefs and expectations about what they think should have happened or must have happened. As a result, witnesses often remember things that make sense to them but that never really happened. Without even realizing that they are doing it people often fill in the gaps in their memories with false memories. People think back to something that happened and they reconstruct the events in memory. The reconstruction often contains a mixture of false memories and real memories, and, unfortunately neither the witness themselves nor anyone else can tell which is which.

D. You mean Dr. that if someone picks a person out of a line up as someone they saw commit a crime, they might choose the wrong person even if they are trying to be completely honest.

W. That can very definitely happen, and tragically it has happened all to frequently. There are many documented cases of witnesses who identified a suspect as the criminal they saw, and it was later proved that the person they identified couldn't have committed the crime. In some of these cases the misidentified person served many years in prison as a sole result of the misidentification before he was proven innocent.

D. Dr., if memory is so bad how is it that in everyday life all of us seem to do pretty well as remembering who our friends are and recognizing them.

W. Accuracy of memory is influenced by a number of important factors. For instance our accuracy at recognizing other people is influenced by how often we have seen them before, by how long each of our interactions with them lasts, by how much we pay attention to them, and so on. Of course we recognize friends and acquaintances almost unfailingly because we know them so well and see them so

often. However, we don't do nearly as well at recognizing strangers that we saw only once days or weeks before and for only a few moments. Frequently, an eyewitness to a crime has never seen the criminal before, sees the criminal for only moments, sometimes only seconds, and is so anxious and upset that he doesn't pay attention to the criminal's face. Under these circumstances inaccurate recognition may well occur. D. Why wouldn't a eye-witness pay attention to a criminal's face?

W. As I mentioned earlier people tend to remember best those things that they focus on and pay attention to. In a frightening situation like a crime witnesses tend to focus attention on those things that are most important to them at the time. Usually that is the criminal's weapon rather than his face. Many eye witnesses to crimes testify that they can't remember anything about a criminal's face, because they spent all of their time focused on his gun. This phenomenon occurs so frequently that it even has a name. Psychologists call it "weapon focus" and several experiments have shown that a person holding a threatening object is significantly less likely to be accurately recognized than a person without a weapon because witnesses tend to focus on the weapon rather than on the face of the person holding it. D. Suppose the witness was hiding and wasn't seen by the criminal, and the witness watched the criminal shoot and kill someone else. Under those circumstances would the witness be likely to attend to the criminal's face? W. No, pronely not. The witnesses' first concern in such circumstances would probably be to remain in hiding and not be seen. The witness would probably be focusing much of their attention on doing what ever they had to do to remain hidden, like ducking, keeping behind an obstacle, and so on. Even if they had a clear view of the shooting, they would probably focus more attention on the gun, the shooting incident itself, and the victim than on the criminal. Remember, that a shooting is a very frightening experience to a witness. When people are frightened they tend to focus their attention on only a narrow range of events. The events that would be most likely to draw a witnesses attention during a shooting would not be the criminal's face, but the gun pointing and firing at the victim. After the shooting the witness would be more likely to focus on the victim than on the shooter.

D. Suppose a criminal is wearing a hat, like a baseball cap, that partly covers his head and face, would that be likely to interfere with accurate identification?

W. Yes, of course it would. People recognize faces to the extent that they attend to and remember distinctive features of the face. If some of those feature are blocked by something like a cap or mask, then the witness will be less likely to make an accurate recognition.

D. Dr. Suppose that a witness is very certain and confident about their identification, does that mean that the witness is likely to be correct in their identification?

W. No, that is definitely not true, and I want to emphasize this fact, because most people, including jurors, falsely assume that a witness who is certain and confident about who they saw must be right about who they saw. A great deal of experimentation conducted in numerous different laboratories all over North America indicates that there is little if any relationship between the accuracy of a witnesses'

identification and the confidence that a witness holds in their identification. In other words, a witness who is positive and certain that the man she picked out of a line up is the one who did it, is no more likely to be correct in her identification than a witness who is unsure of his identification. This lack of relationship between accuracy and confidence is important to emphasize, because a number of studies indicate that jurors are much more likely to believe confident eye witnesses than nonconfident eye witnesses, even though the confident witnesses are no more likely than the nonconfident ones to be correct in their identifications.

D. Dr. can the likelihood of a witness misidentifying someone be influenced by events that happen after the witness has seen the crime?

W. Yes: The term *postevent information* refers to information that a witness gets after they have witnessed the crime. Post event information can strongly influence what a witness recalls and who a witness identifies. When the postevent information is misleading it can lead witnesses to create false memories and to identify the wrong person. For instance, suppose a police investigator believes that the criminal had a moustache and while interviewing the witness asks him a question like "What colour was the killer's moustache?" Now suppose the real killer didn't have a moustache. Nevertheless, when the witness gets this question he is likely to try and call up an image of the killer's face. Moreover, because of what the investigator said, the witness may give his image of the killer a moustache and then when he looks at his image may come to believe that the killer actually did have a moustache. Now suppose the witness sees a lineup that includes a suspect with a moustache. As the witness views the men in the lineup she will try to match their faces against her image of the killer. But now her image is of a man with a moustache, and therefore, the witness may very well pick out the wrong man because he has a moustache even though the real killer never had a moustache. A number of experiments carried out by psychologists indicate that postevent information in the form of misleading questions can lead witnesses to misidentify events. For instance, in one well known study witnesses were asked a misleading question implying that they had seen a stop sign when what they had really seen a yield sign. The subjects were later shown two slides of the scene they had witnessed. One slide contained a stop sign and the other a yield sign, and the subjects were asked to pick the one they had seen earlier. Subjects who had been given the misleading information implying that they had seen a stop sign, frequently picked the slide with the stop sign even though the sign they had actually seen was right there in plain view.

D. Thank you Dr. No further questions. Add for Hypnotic Condition

D. Dr. suppose, before being shown a lineup a witness was hypnotized. Would this tend to improve their memory or make an accurate identification more likely.

W. Everything I said earlier about the problems of remembering and the likelihood of making misidentifications is equally true regardless of whether or not a witness has been hypnotized. A great deal of experimental work in the last few years has investigated the effects of hypnosis on eye-witness recall and eye-witness identification. This research indicates that hypnosis does not enhance accurate eye-witness recall, and does not increase the likelihood of accurate identification.

Sometimes witnesses who have been hypnotized do recall information that they didn't recall previously. Unfortunately, however, most of this new information is inaccurate.

D. What about the idea that a witness may have repressed certain information into the unconscious, and that hypnosis helps them to remember these unconscious memories that they couldn't recall earlier.

W. The idea that hypnosis works in this way is based on the false belief that I mentioned earlier. The idea that the mind works like a videotape recorder that stores everything that a witness sees, so that the problem is simply to playback the mental videotape. Once again, this idea is false. The mind does not work like a videotape recorder. There is no evidence at all to support the idea that hypnosis uncovers hidden memories. It is important to keep in mind, that when people do recall new information under hypnosis the information is usually inaccurate.

D. Does hypnosis influence the confidence that witnesses place in their recall and in their identifications?

W. The evidence here is mixed. Nevertheless, a number of studies indicate that hypnosis makes witnesses overconfident in their identifications. Remember, hypnosis does not increase the accuracy of recall or the accuracy of an eyewitness identification. However, the hypnosis might convince witnesses that they are correct when they are not, and in that way make them over-confident.

D. Will hypnosis keep people from being misled by leading questions?

W. Certainly not. If anything the opposite is true. Some studies indicate that hypnosis makes witnesses more susceptible to being misled by leading questions, while others indicate that hypnotic and nonhypnotic subjects are equally likely to be misled. But there are no studies to suggest that hypnosis reduces the likelihood that subjects will be misled. Cross-examination

P. Dr., Do eye witnesses always pick out the wrong man in a line up.

W. No, of course not.

P. Are there cases in which an eye witness identified a suspect and then later evidence proved that the suspect was guilty.

W. Yes.

P. Are cases in which an eye witness makes a correct identification rare? I mean, do eye-witnesses make a correct identification only once in a blue moon, or do they make correct identifications more or less routinely?

W. Any kind of general yes or no answer to that question would be misleading, because the likelihood of a correct identification will depend to such a great extent on the circumstances in which the witness sees the criminal. For instance, if your brother-in-law punches you in the nose, your not going to have any trouble identifying who did it. However, if a stranger wearing a hat that blocks part of his face suddenly comes out of nowhere hits you on the nose without warning and then runs off. You may very well have difficulty making an accurate identification.

P. Are there not some studies which show that eye-witnesses to crimes are frequently quite accurate concerning the central details of the crime?

W. Yes, there are some studies like that. However, it's important to keep in mind

that witnesses who are correct about central details, like the colour of a criminal's car, or in which hand he held a gun, do not necessarily make correct identifications of the criminal.

P. Do all witnesses focus on the criminal's weapon, or do some of them attend to his face as well.

W. It's impossible to make any statement that will hold for all witnesses. People vary in how they respond to a situation like a crime. What the empirical findings indicate is that, in general the presence of a weapon makes eyewitness identification worse.

P. If you can't make any statement that holds for all witnesses, then that suggests that some witnesses attend to a criminal's face even when he has a gun, is that correct? W. Yes.

P. Dr. In the studies you mentioned where some subjects saw a person with a weapon and some saw a person without a weapon, did all of the subjects who saw a person with a weapon later misidentify that person?

W. No, some people in the weapons condition made a correct identification.

P. In other words, some witnesses make correct identifications even when the criminal has a gun, and even when they see a violent act isn't that right?

W. Yes.

P. You say there is no relationship between the confidence a witness has in his identification, and how accurate the witness is, is that right?

W. Yes, that's right.

P. That doesn't mean that witnesses who are confident that they picked the right man are wrong does it?

W. No, it just means that they are no more likely to be right than a witness who is not highly confident.

P. In other words, a witness who is confident may pick the right man and a witness who is nonconfident may also pick the right man?

W. Or both may be equally likely to pick the wrong man.

P. You said that the likelihood of a witness making a correct identification depends on the circumstances right?

W. Yes. Some circumstances are more conducive to a correct identification than others.

P. For instance, witnesses are more likely to be correct if they see a crime take place in daylight than at night, right?

W. Yes, other things being equal, they are more likely to be accurate in daylight than at night.

P. Have you ever heard of a witness who kept their head and tried to notice the distinctive features of a criminal in order to later be able to identify them?

W. Well, most witnesses don't do that, but occasionally one remains cool and behaves like that.

P. No further questions your Honour.

Add For Hypnosis Condition

P. Dr. isn't it true that hypnosis is used by many police departments in Canada, the United States, and a number of European countries to aid the recall of eye witnesses to crimes?

W. Yes.

P. And isn't it often psychologists with Ph.D.'s, like yourself, who have taught the police to use hypnotic interview procedures?

W. Yes.

P. Dr. You mentioned that there were numerous studies that showed that hypnotic procedures were not more effective than nonhypnotic procedures at helping subjects remember. Most of these studies didn't use actual witnesses to real crimes to draw their conclusions, did they?

W. No. Most used college students that saw slides or videotapes of a simulated crime.

P. Were the students in these studies as likely as real witnesses to be upset and traumatized by what they saw?

W. No.

P. Isn't it true that a number of psychologists have argued that the kinds of experiments you talked about, the ones that use students, would not be likely to show the advantages of hypnosis, because the hypnosis is most likely to be effective with real witnesses who have been frightened during real crimes?

data do not support that position. One study did use real eyewitness to real crimes. It found that hypnotized witnesses did not recall any better than nonhypnotized witnesses.

P. Dr. Haven't there been studies with the Los Angeles police department in which witnesses to crimes were later hypnotized, and often recalled new information during hypnosis that helped the police solve the crime.

W. The reports you're talking about weren't controlled experiments. Most are simply anecdotes of individual cases or groups of cases. In none of those reports were hypnotic subjects compared against nonhypnotic subjects.

P. Dr. you're evading the question. Isn't it true that some studies indicate that real eye-witnesses who have been hypnotized sometimes recall new information during the hypnosis that the police find helpful in solving crimes.

W. It is true that there are studies that conclude that. However, those conclusions are questionable because the methodology used in those studies is questionable.

P. No further questions your Honour.

CLOSING STATEMENTS

Defense

Members of the Jury, at the beginning of this trial the Prosecution told you that it would prove beyond a reasonable doubt that John Russell shot and killed Irving Harris. The Prosecution has now presented its case, and I think that it is clear to everyone that

the Prosecution case fails to prove that John Russell is guilty. The Prosecution has been unable to prove its case for a very simple reason. Mr. Russell is innocent, and therefore, the Prosecution case falls to pieces for lack of convincing evidence. Let us take each piece of Prosecution evidence one at a time. Mr. Russell borrowed money from a loan shark named Irving Harris, and therefore, Mr. Russell's name was found in Harris' diary by the police. However, 63 other names were also found in Harris' diary and everyone of those 63 people had at least as strong a motive as my client for wishing Mr. Harris dead. Moreover, some of these people were criminals who had previously committed violent crimes. The Prosecution has argued that none of these people owned a 38 calibre handgun. But the detective who arrested Mr. Russell stated under oath that some of these people were professional criminals who had used unregistered or stolen guns for their previous crimes and then lied about this to the police. The fact that such people do not own a registered weapon obviously does not prevent them from murdering someone with an unregistered weapon.

Mr. Harris was not a popular man. As Detective O'Malley testified he was a mean spirited professional criminal who often threatened people and who made a great many enemies. Detective O'Malley even testified that he was not surprised that Harris had been murdered. In other words, Harris had so many enemies that the police expected him to be killed at some point. In short, ladies and gentlemen, even if we concede that Mr. Russell did not like Mr. Harris, and that Mr. Russell ever that it was Mr. Russell who killed him. A great many people disliked Mr. Harris and had a motive to kill him. Some of these people were themselves criminals who had records for committing violent crimes. Any one of these people could have killed Mr. Harris and had as much or more of a motive to do so than Mr. Russell. In short, the fact that Mr. Russell knew Mr. Harris, owed him money and disliked him proves absolutely nothing. Mr. Harris was killed with a 38 calibre revolver. Mr. Russell owns a 38 calibre revolver. If the Prosecution could prove that it was Mr. Russell's gun that shot Mr. Harris then they might have a case. But, of course, the Prosecution can prove nothing of the kind. The ballistic evidence is so scanty that it is impossible to match the bullet fragments from Harris' body with any gun. Certainly they could not be matched to Mr. Russell's gun.

Members of the Jury, if you planned to murder someone and knew that you might become a suspect, would you use your own licensed handgun and then turn it over to the police when they asked you if you owned a gun? Is this the behaviour of a guilty man? Of course it isn't. A guilty man would have used an unregistered gun, or would have thrown his registered gun away after the crime and reported it stolen. He certainly wouldn't hand it over to the police.

Mr. Russell's gun had been fired at some time in the week before the gun was examined by the forensic criminalist. Does this prove that Mr. Russell fired his gun at Harris? Of course not. In fact, we now know that a few days before the murder Mr. Russell had fired his gun at a shooting range. You all heard Mr. Smith, the attendant at the range testify that Mr. Russell came to the range on September 6th to practice his shooting. Is a 38 Calibre revolver a rare handgun? Hardly. You heard the prosecution's own criminalist testify that it is a very common weapon. Again I ask you, how many of the violent criminals in Mr. Harris' diary had access to a 38 calibre

Resolution test chart showing patterns of vertical and horizontal lines with numerical values: 1.0, 1.1, 1.25, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0.

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

revolver? We may never know. Nevertheless, contending that Mr. Russell's possession of such a gun constitutes evidence that he murdered Harris is clearly absurd. ~~Members~~ of the Jury, the case for the Prosecution revolves around the testimony of an eyewitness who identified Mr. Russell in a line up as the man who shot Mr. Harris. At first glance eyewitness testimony seems like strong evidence. However, [as you have learned from Dr. Lawson] eye witness testimony is often unreliable. Eye witnesses can be wrong, and [as the Dr. told you] there are many cases in which innocent people have been wrongly convicted on the basis of unreliable eyewitness testimony. In the present case the witness was interviewed by Detective Johnson shortly before being presented with a lineup that included Mr. Russell. At the time of that interview Detective Johnson knew that Mr. Russell was a suspect and that the witness would soon see him in a line up. What exactly did Detective Johnson say to that witness during the interview? Did detective Johnson, perhaps without even realizing it, ask the witness leading questions that predisposed the witness to incorrectly choose Mr. Russell from the line up? Unfortunately, we don't know the answers to these questions because Detective Johnson's interview was not tape recorded or transcribed. [However, think back to what Dr. Lawson told you about the effects of post-event information on recall and recognition accuracy. Remember that leading questions have been shown in experiments to predispose witnesses to actually recognize the wrong person or event.] Considerations such as these can only raise reasonable doubts about the accuracy of the eye witness testimony in this case.

Murder is ugly and frightening. Witnesses who see a murder do not remain calm and composed and think about how they should be trying to remember what the killer looked like so as to later help out the police. Instead, witnesses get upset and this can interfere with their ability to remember what happened. [Remember what Dr. Lawson told you about weapon focus and about the fact that eye witnesses often spend so much time looking at the gun or looking at the victim, that they don't pay attention to the killer's face. Remember Dr. Lawson saying that accurate identification depends upon how much attention people actually pay to someone's face, and that eye-witness to crimes are often too busy paying attention to the gun or to the victim to focus on the killer's face.

Members of the jury, it is particularly important that you remember what Dr. Lawson told you about the lack of relationship between witness accuracy of identification and witness confidence. An eye witness who is certain about what he or she saw is no more likely to make an accurate identification than an eye witness who is uncertain. Now it is important to keep this thought in mind because it runs counter to our implicit assumptions about memory. Normally we think that a person who displays confidence about something must be right about what they have confidence in. What Dr. Lawson has told us is that this is not true about eye witness testimony. Witness who are sure about who they saw are not necessarily right about who they saw. In fact, they are no more likely to be right about who they saw than people who are not sure about their identification.] In summary, ladies and gentlemen, the Prosecution has been unable to make a convincing case. They have provided no evidence whatsoever to prove beyond a reasonable doubt that John Russell murdered Irving Harris. A great many people had a motive to kill Harris, and there is no evidence to indicate that Mr. Russell's gun was

the murder weapon. The Prosecution produced an eye witness who saw the crime, but, as you have heard, eyewitness testimony is often unreliable and inaccurate.

Members of the Jury Mr. Russell is not a killer. Before this unfortunate incident he had never been in trouble with the police. When the police interviewed him he did not act like a killer. He was not evasive and cooperated fully with the police. Mr. Russell did not kill Irving Harris. For that reason I ask that you find him not guilty of Murder. Thank you for your attention.

Prosecution

Members of the Jury, this is not a difficult case. John Russell shot and killed Irving Harris. Mr. Russell had the motive to kill Mr. Harris. Mr. Russell owed Mr. Harris large sums of money and Harris had threatened to hurt Russell or to take away his business. Russell had little time left. he was frightened that he would be badly hurt and that he would loose his business. So, he became panicky and threw together a plan to murder Harris. It was not a good plan. It was not as well thought through as it could have been. But then again, criminals often do foolish things and carry out plans that are not well thought through. That is why they are so often caught. Mr. Russell not only had the motive to kill Harris he also had the means. He knew where Harris worked, he knew where he parked his car, and he knew when there were likely to be few witnesses around to see the crime. Russell is also unable to account for his whereabouts at the time of the crime. Instead, he expects us to believe the flimsiest of alibis. He was home alone asleep, where no one could see him or corroborate his story. Moreover, Mr. Russell also had a gun. Mr. Russell had a 38 calibre revolver and he used it to shoot Harris who was killed with a 38 calibre revolver. Now the Defense can try to dodge and weave and do it's best to pretend that this is a coincidence. However, the truth is that Harris was killed with a 38 revolver, that Russell had a motive to kill Harris, had in his possession a 38 calibre revolver, and also had no alibi for the time that Harris was killed. Ladies and gentlemen, it does not take many coincidences of this kind to make it crystal clear that these are not coincidences at all. The Defense argues that a guilty man would have had an alibi. This is simply not true. A guilty man would have had an alibi only if he had expected to be caught. Mr. Russell did not know that a witness had seen him commit the crime. He did not know that Harris had a diary, that the police would find his name in the diary, his address, and the amount of money he owed Harris. He did not expect the police to come knocking at his door and, therefore, he had not prepared an alibi.

Members of the Jury, the idea that most murders are highly planned elaborate affairs where the criminal is careful to cover his tracks is simply not true. Most murders are poorly planned and carried out by desperate people who feel trapped. That is why the arrest rate for murder is higher than for any other violent crime. The Defense argues that a guilty person would not have used a registered gun to commit a murder. In fact, most handgun killings involve registered guns. The murderer uses the gun that he has available. If the murderer is not a professional criminal the gun he has available is likely to be his own registered gun. The Defense further argues that a guilty person would have disposed of the gun. Members of the jury, think about this argument

carefully. If Mr. Russell had disposed of his registered 38 or failed to hand the gun over to the police immediately this would have implied that he was trying to hide something. Failure to comply with the police request that he hand over his registered 38 revolver would have immediately implied that he was guilty. Once again, do not be fooled by the implicit argument of the Defense that murders are carefully planned and carefully thought through affairs. Most are not. Most are committed by frightened people who feel that they are at their wits end and who commit the murder out of desperation and without a great deal of planning. Mr. Russell, by his own testimony was a frightened desperate man who didn't know what to do about Mr. Harris and for whom time was running out. He did not commit a carefully planned, highly organized murder, but he did commit a murder and was caught for it.

Members of the Jury, you have heard a great deal here today about the supposed unreliability of eye witness testimony. After all, the police had the defendant deal to rights, someone actually saw the whole crime in broad daylight from beginning to end, and that witness picked out Mr. Russell from a lineup that included 5 other people. Think about that for a moment. Five other people and who did the witness pick? The person who didn't have an alibi, who had a motive to kill Harris, and who owned a recently fired 38 revolver; the same calibre gun used to kill Harris. Given the overwhelming evidence against Mr. Russell the Defense has had no choice but to play a card of desperation and has tried to convince you that a perfectly sane witness who sees a crime committed in broad daylight from beginning to end, and who has ample opportunity to see the criminal, doesn't know the evidence of their own senses. Members of the jury, all of you have been frightened at one time or another, did it make you blind? Of course not. Well it didn't make the witness blind either, and that's why, when faced with five strangers the witness was able to pick out the one who owned a 38 and didn't have an alibi. Obviously, this was not coincidence. The witness picked Mr. Russell and no one else for one reason and one reason only, Mr. Russell was the one who did it and the witness saw him do it. It's as simple as that.

Members of the Jury, suppose the witness had been so frightened that they focused on the gun rather than the face of the killer. What would happen when it came to the line up? Obviously, they wouldn't recognize anyone. Also if they just guessed, the chances are four out of five that they would pick the wrong man. There was only one suspect in the line up. Only one person who didn't have an alibi, who owed Harris money and who had a recently fired 38 revolver in his possession. The witness knew nothing of this. The witness simply looked at five men. Why did the witness pick out the suspect? Certainly it was not because their memory was unreliable. If that had been the case we would have expected the witness to be guessing. If the witness were guessing they would have most likely picked out one of the four non-suspects. Why did the witness pick out the only suspect in the line up? Very simple. Because that suspect was the killer, and the witness saw the killer commit the crime.

Members of the Jury, the Defense went on at some length about leading questions and about how witnesses can be misled by such questions. However, Detective Johnson, who interviewed the witness says he can't remember asking any leading questions and doesn't think that he did ask any. Obviously Detective Johnson doesn't remember every word

of his interview, but he is a trained police officer. He knows how to interview witnesses, and there is certainly no reason to assume that he was leading the witness. Once again, ladies and gentlemen, the defense is grasping at straws. Russell killed Harris in broad daylight in front of an eye witness. One couldn't ask for clearer or more direct evidence of guilt. So the defense is desperate, and the desperate measure they have adopted is to raise the spectra of leading questions poisoning the mind of the witness even though they have failed to produce even a shred of evidence that the witness was asked a single leading question. In summary, ladies and gentlemen, This is not a difficult case. The evidence is overwhelming. It indicates beyond a reasonable doubt that John Russell murdered Irving Harris. For this reason I ask that you find John Russell guilty of Murder. Thank you for your patience and your attention.

Judge's Charge

Ladies and gentlemen of the jury, you have heard the evidence in this case and you must now follow the law as I will present it to you and deliberate to a Unanimous verdict. Mr. John Russell has been charged with the murder in the second degree of Mr. Irving Harris. In order to commit second degree murder a person must cause the death of a human being and mean to cause his death, or mean to cause him bodily harm that he knows is likely to cause his death. Section 235 of the Canadian Criminal Code holds that anyone who commits second degree murder is guilty of an indictable offence and shall be sentenced to prison for life.

Ladies and gentlemen of the Jury, it is the contention of the Prosecution that John Russell caused the death of Irving Harris and that he meant to cause the death of Irving Harris. In short, it is the contention of the Prosecution that John Russell committed second degree murder by killing and meaning to kill Irving Harris. Mr. Russell has admitted that he owed money to Mr. Harris and that Mr. Harris threatened to beat him if he did not either repay Mr Harris or sign his business over to him. It is the theory of the Prosecution that Mr. Russell shot and killed Harris with a 38 calibre revolver on September the 9th of last year. In support of their theory the Prosecution has provided evidence to show that Mr. Harris was killed with a 38 calibre revolver, that Mr. Russell owned a 38 Calibre revolver, that Mr. Russell's revolver had been fired recently enough to the time of the murder to be the murder weapon. The Prosecution has also supported its theory by contending that Mr. Russell has been unable to corroborate his alibi that he was alone at home in bed at the time of the murder. According to the theory of the Prosecution Mr. Russell's alibi is a lie. Finally, the Prosecution has produced an eye-witness who saw the crime, and who identified Mr. Russell as the man who shot and killed Mr. Harris.

The Defense has argued that Mr. Russell did not kill Mr. Harris, and that the evidence presented by the prosecution fails to prove beyond a reasonable doubt that Russell killed Harris. The Defense has established that Harris was a loan shark with a long criminal record and has attempted to show that Harris had many enemies other than Russell who possessed strong motives to kill Mr. Harris. The Defense has also established that the prosecution was unable to match Mr. Russell's gun to the bullet that killed Harris, and has argued that any 38 calibre revolver, not just Russell's gun, could have been the murder weapon. The Defense has also provided evidence to show that Russell fired his gun at a shooting range several days before the murder of Harris. According to the theory of the Defense the police criminalist found that Russell's revolver had been recently fired because Russell had fired it at the shooting range and not because Russell had used it to kill Harris. According to the theory of the Defense the testimony of the eye-witness who claimed to see Russell kill Harris is unreliable and the witness has made a mistaken identification.

Members of the jury, in this case the defendant has chosen not to testify. It is his legal right to choose not to testify. His failure to testify in this case should not be construed as evidence against him. Ladies and gentlemen, in your deliberations it is important that you review very carefully all of the evidence that has been presented. You should think carefully about the testimony you have heard, and, where there was

conflicting testimony you must make judgements about the credibility of the witnesses involved. Not everything said under oath in a court of law is necessarily the complete truth. People are often swayed by various personal motivations to present their evidence in a way that is favourable to the outcome they favour. It is up to you to use your intelligence and your common sense when evaluating the evidence and when reaching your conclusions. If, after careful deliberation you conclude that the evidence presented before you proved beyond a reasonable doubt that Mr. Russell murdered Mr. Harris, then you should follow the law as I have described it to you and find Mr. Russell guilty of second degree murder. On the other hand, if after careful evaluation of the evidence you believe that a reasonable doubt remains concerning Mr. Russell's guilt, then you should find him not guilty of the charge against him.

Now, a reasonable doubt concerning guilt is not merely the possibility of innocence. A reasonable doubt is a doubt that would cause a reasonable and prudent person in the graver and more important affairs of life to pause and to hesitate to act upon the truth of the matter charged. Proof beyond a reasonable doubt is not proof beyond all possible or imaginary doubt. Instead, it is proof that precludes every reasonable hypothesis except the hypothesis that it tends to support. Proof beyond a reasonable doubt is proof to a moral certainty. Proof beyond a reasonable doubt is proof strong enough to convince reasonable people that no other reasonable conclusion is possible. Members of the Jury you may now retire and begin your deliberations.

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the murder weapon. The Prosecution produced an eye witness who saw the crime, but, as you have heard, eyewitness testimony is often unreliable and inaccurate.

Members of the Jury Mr. Russell is not a killer. Before this unfortunate incident he had never been in trouble with the police. When the police interviewed him he did not act like a killer. He was not evasive and cooperated fully with the police. Mr. Russell did not kill Irving Harris. For that reason I ask that you find him not guilty of Murder. Thank you for your attention.

Prosecution

Members of the Jury, this is not a difficult case. John Russell shot and killed Irving Harris. Mr. Russell had the motive to kill Mr. Harris. Mr. Russell owed Mr. Harris large sums of money and Harris had threatened to hurt Russell or to take away his business. Russell had little time left. he was frightened that he would be badly hurt and that he would loose his business. So, he became panicky and threw together a plan to murder Harris. It was not a good plan. It was not as well thought through as it could have been. But then again, criminals often do foolish things and carry out plans that are not well thought through. That is why they are so often caught. Mr. Russell not only had the motive to kill Harris he also had the means. He knew where Harris worked, he knew where he parked his car, and he knew when there were likely to be few witnesses around to see the crime. Russell is also unable to account for his whereabouts at the time of the crime. Instead, he expects us to believe the flimsiest of alibis. He was home alone asleep, where no one could see him or corroborate his story. Moreover, Mr. Russell also had a gun. Mr. Russell had a 38 calibre revolver and he used it to shoot Harris who was killed with a 38 calibre revolver. Now the Defense can try to dodge and weave and do it's best to pretend that this is a coincidence. However, the truth is that Harris was killed with a 38 revolver, that Russell had a motive to kill Harris, had in his possession a 38 calibre revolver, and also had no alibi for the time that Harris was killed. Ladies and gentlemen, it does not take many coincidences of this kind to make it crystal clear that these are not coincidences at all. The Defense argues that a guilty man would have had an alibi. This is simply not true. A guilty man would have had an alibi only if he had expected to be caught. Mr. Russell did not know that a witness had seen him commit the crime. He did not know that Harris had a diary, that the police would find his name in the diary, his address, and the amount of money he owed Harris. He did not expect the police to come knocking at his door and, therefore, he had not prepared an alibi.

Members of the Jury, the idea that most murders are highly planned elaborate affairs where the criminal is careful to cover his tracks is simply not true. Most murders are poorly planned and carried out by desperate people who feel trapped. That is why the arrest rate for murder is higher than for any other violent crime. The Defense argues that a guilty person would not have used a registered gun to commit a murder. In fact, most handgun killings involve registered guns. The murderer uses the gun that he has available. If the murderer is not a professional criminal the gun he has available is likely to be his own registered gun. The Defense further argues that a guilty person would have disposed of the gun. Members of the jury, think about this argument