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**An Experimental Study of Hypnotically Elicited Recall  
and the  
Search for the 'Error' Prone Individual**

**Beverlea K. Tallant**

**A Thesis  
in  
The Department  
of  
Psychology**

**Presented in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy at  
Concordia University  
Montreal, Quebec, Canada**

**March 1994**

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## **ABSTRACT**

### **An Experimental Study of Hypnotically Elicited Recall and the Search for the 'Error' Prone Individual**

**Beverlea K. Tallant, Ph.D.  
Concordia University, 1994**

Hypnosis has been utilized as a forensic investigative tool to enhance the memory of eyewitnesses. The purpose of the present study was to determine which hypnotic context could facilitate eyewitness recall and to evaluate the memories obtained. Fifty subjects observed a slide series of a street robbery and were randomly assigned, by sex and hypnotic susceptibility, either to a standard induction which suggested that hypnosis may or may not influence memory or to a typical forensic hypno-investigative induction which strongly suggested that hypnosis improved memory. Subjects recalled their observations in four trials, including one in hypnosis, over a two week period. The recall and confidence ratings were scored as to whether they were correct, incorrect or "don't know" responses for each trial. The eyewitness data were analyzed using a 2 x 3 x 4 mixed between-within subjects design analysis of variance for unequal n with two between-subject variables, the two inductions and three hypnotic susceptibility levels, and one within-subject variable, the four recall trials.

Results indicated that, regardless of hypnotic procedure and susceptibility, subjects in hypnosis were more productive, particularly for errors of memory, reported fewer "don't know" responses, and made higher confidence ratings. An interaction effect was found for 'new' material



between the inductions and the hypnosis recall trial. Subjects in the forensic hypno-investigative induction made significantly more 'new' errors.

The secondary purpose of the study was to attempt to predict the 'error' prone individual. A hierarchical model of multiple regression analysis examined the relationship(s) between errors of recall, confidence ratings, and eight predictor variables. None of the selected subject characteristics of visual acuity, absorption, hypnosis-like experiences, style of thinking, visual retention, and hypnotic susceptibility predicted the 'error' prone individual prior to hypnosis. However, with the addition of the hypnotic procedure, four variables emerged to predict 37% of the subjects who would make 'new' errors in hypnosis. The 'error' prone individual had minor visual retention problems, higher hypnotic susceptibility, and had participated in the forensic hypnotic procedure.

Recommendations were made for future research and for the adoption, in Canada, of formal standards for forensic hypno-investigations.

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## Table of Contents

	Page
List of Figures .....	vii
List of Tables .....	viii
List of Appendices .....	x
INTRODUCTION .....	1
The Nature of Hypnosis .....	7
Proponents of Hypnosis for Forensic Purposes .....	10
Opponents of Hypnosis for Forensic Purposes .....	18
Experimental Studies on Hypnosis and Memory .....	27
Applied Studies on Hypnosis and Memory .....	34
Predictors of the 'Error' Prone Individual .....	50
Purpose of the Present Study .....	54
METHOD .....	56
Procedure .....	57
Materials .....	65
Scoring Protocol .....	73
Statistical Analyses .....	76
RESULTS .....	79
Group Comparability .....	79
Analysis of Recall Data .....	84
Experiential Analysis Technique (EAT) .....	119
Prediction of the 'Error' Prone Individual .....	131
DISCUSSION .....	137
FOOTNOTES .....	152
REFERENCES .....	154
APPENDICES .....	176

## List of Figures

		Page
Figure 1	Experimental Procedure	58
Figure 2	Mean number of total correct details recalled in trials 1, 2, 3, and 4 for the entire sample (N=50).	88
Figure 3	Mean number of new correct details recalled in the Reiser (n=23) and Standard (n=27) experimental conditions in trials 2, 3, and 4.	92
Figure 4	Mean number of new highly confident correct details recalled in the Reiser (n=23) and Standard (n=27) experimental conditions in trials 2, 3, and 4.	99
Figure 5	Mean number of total errors of details recalled in trials 1, 2, 3, and 4 for the entire sample (N=50).	103
Figure 6	Mean number of new errors of details recalled in the Reiser (n=23) and Standard (n=27) experimental conditions in trials 2, 3, and 4.	107
Figure 7	Mean number of total highly confident errors of details recalled in trials 1, 2, 3, and 4 for the entire sample (N=50).	111
Figure 8	Mean number of total don't know responses reported by subjects in recall trials 1, 2, 3, and 4 for the entire sample (N=50).	117

## List of Tables

		Page
Table 1	Comparison of Characteristics of the Subjects in the Reiser (n=23) vs the Standard (n=27) Experimental Induction Groups	81
Table 2	Comparison of Hypnotic Susceptibility Levels for Ss in the Reiser (n=23) and Standard (n=27) Induction Conditions Using the Wilcoxon Rank-Sum Test	82
Table 3	Comparison of Subjects in the Reiser (n=23) vs Standard (n=27) Experimental Induction Conditions on Measures of Depth of Hypnosis, Absorption, Style of Thinking and Visual Retention	85
Table 4	Mean Number of Total Correct Details of the Suspect Recalled by Subjects According to Experimental Condition, Level of Susceptibility and by Time (Recall Trials)	87
Table 5	Mean Number of New Correct Details of the Suspect Recalled by Subjects According to Experimental Condition, Level of Susceptibility and by Time (Recall Trials 2, 3, and 4)	90
Table 6	Mean Number of Total Highly Confident Correct Details of the Suspect Recalled by Subjects According to Experimental Condition, Level of Susceptibility and by Time (Recall Trials)	94

		Page
Table 7	Mean Number of New Highly Confident Correct Details of the Suspect Recalled by Subjects According to Experimental Condition, Level of Susceptibility and by Time (Recall)	97
Table 8	Mean Number of Total Errors of Details of the Suspect Recalled by Subjects According to Experimental Condition, Level of Susceptibility, and by Time (Recall)	101
Table 9	Mean Number of New Errors of Details of the Suspect Recalled by Subjects According to Experimental Condition, Level of Susceptibility and by Time (Recall Trials 2, 3, and 4)	105
Table 10	Mean Number of Total Highly Confident Errors of Details of the Suspect Recalled by Subjects According to Experimental Condition, Level of Susceptibility and by Time (Recall Trials)	109
Table 11	Mean Number of New Highly Confident Errors of Details of the Suspect Recalled by Subjects According to Experimental Condition, Level of Susceptibility and by Time (Recall Trials 2, 3, and 4)	112
Table 12	Mean Number of Don't Know Responses Reported by Subjects According to Experimental Condition, Level of Susceptibility and by Time (Recall Trials)	115
Table 13	Mean Number of New Don't Know Responses Reported by Subjects According to Experimental Condition, Level of Susceptibility and by Time (Recall Trials 2, 3, and 4)	118
Table 14	Hierarchical Multiple Regression of Predictor Variables on Number of New Errors of Details of the Suspect in Recall 3 (N = 50)	135

## List of Appendices

	Page	
Appendix A	Consent form	178
Appendix B	Visual history and acuity form	180
Appendix C	Definitions of visual problems	182
Appendix D	Transcript of the four recalls of a subject in the Reiser experimental induction condition	184
Appendix E	Transcript of the four recalls of a subject in the Standard experimental induction condition	209
Appendix F	Eyewitness recall record and confidence rating form	235
Appendix G	Experimental induction Reiser technique	240
Appendix H	Experimental induction Standard technique	252
Appendix I	Depth of hypnosis questionnaire	260
Appendix J	Experiential analysis technique (EAT)	262
Appendix K	Induction procedure Modified SHSS: C	265
Appendix L	Scoring booklet: Modified SHSS: C	275
Appendix M	Tellegen Absorption Scale	282
Appendix N	Personal Experiences Questionnaire: Form CA-79	287
Appendix O	PICS Release 2.6 and Style of Thinking Questionnaire	291
Appendix P	Rater's correct description of suspect form	302
Appendix Q	Correct description of suspect	308

	Page
<b>Appendix R</b> Source table for 2 x 3 x 4 ANOVA of total correct details of the suspect	313
<b>Appendix S</b> Source table for 2 x 3 x 3 ANOVA of new correct details of the suspect	315
<b>Appendix T</b> Source table for 2 x 3 x 4 ANOVA of total highly confident correct details of the suspect	317
<b>Appendix U</b> Source table for 2 x 3 x 3 ANOVA of new highly confident correct details of the suspect	319
<b>Appendix V</b> Source table for 2 x 3 x 4 ANOVA of total errors of details of the suspect	321
<b>Appendix W</b> Source table for 2 x 3 x 3 ANOVA of new errors of details of the suspect	323
<b>Appendix X</b> Source table for 2 x 3 x 4 ANOVA of total highly confident errors of details of the suspect	325
<b>Appendix Y</b> Source table for 2 x 3 x 3 ANOVA of new highly confident errors of details of the suspect	327
<b>Appendix Z</b> Source table for 2 x 3 x 4 ANOVA of total "don't know" responses	329
<b>Appendix A<sub>1</sub></b> Source table for 2 x 3 x 3 ANOVA of new "don't know" responses	331
<b>Appendix B<sub>1</sub></b> Pearson correlation matrix for predictor variables for all subjects (N = 50)	333



## INTRODUCTION

The forensic utilization of hypnosis has been hotly disputed twice during the past century, once in France during the 1880's and again in North America during the 1980's. At the time of writing, much remains unresolved. The main rationale that has been offered for using hypnosis as a police investigative tool is that it appears to provide a means by which police officers can develop leads that may provide new evidence. In other words, it is thought that hypnosis may assist victims and eyewitnesses of a crime to recall objective information such as additional details of a crime scene, descriptions of cars and license plate numbers, physical descriptions of a potential suspect, weapons, and such added details as, for instance, conversations overheard (Udolf, 1983, 13 - 15).

Hypnosis has also been used in an attempt to breach the amnesia of a crime victim or an eyewitness, to evaluate the state of mind or criminal intent of an individual, to detect a malingerer from a truly, psychologically traumatized client, and to calm distraught witnesses (Udolf, 1983, 157 - 159). In some instances, for example, the Boston Strangler and the Chowchilla kidnapping cases (Orne, M., Soskis, Dinges, & Orne, E.C., 1984), it is claimed that leads obtained in hypnosis led to convictions. However, in other cases the 'memories' elicited in hypnosis led to false identifications as in a murder (People vs Kempinski, 1980) and a rape case (State vs Mack, 1980) and miscarriages of justice almost resulted.

In France, in 1888, Binet and Féré reported that, both during and after hypnosis, a person's testimony could be the truth, it could be a lie, it could be confabulated memories, or it could consist of suggested pseudomemories that were cued unintentionally by the hypnotist. These findings were reported elsewhere in Europe until it was generally agreed that testimony derived

from hypnosis was not necessarily true and required independent corroboration. It was further observed that subjects believed their erroneous memories recalled in hypnosis to be true and accurate and demonstrated considerable confidence in these new memories. So convinced were the courts of the dangers of hypnosis that hypnotically elicited testimony was prohibited in the French courts (Laurence & Perry, 1983). This is still the case today.

As early as 1848, in the U.S.A., in a case where a woman had accused a man of murder, it was observed that her testimony changed considerably during hypnosis and, therefore, the court rejected her evidence (cited in Laurence & Perry, 1988, pp. 171 - 172). Subsequently, in the case, People v Ebanks, 1897, a confession of guilt during hypnosis was rejected on the grounds that hypnosis is a form of sleep and, therefore, any information obtained in hypnosis as in "sleep talking" was not considered to be reliable (Laurence & Perry, 1983). There were many more instances, however, where the courts accepted hypnotic testimony as evidence, as for example, in a case (Harding v State, 1968), where a woman changed her pre-hypnosis testimony drastically by recalling, in hypnosis, that Harding had shot, abandoned, returned, raped and abandoned her a second time by a road. The psychologist, who conducted the hypnosis session, also appeared as an expert witness advocating and explaining the advantages of hypnosis in improving memory. Although this might be considered a conflict of interest, the Judge, satisfied with the expertise, permitted the hypnotic testimony of the victim to be admitted stating "the fact that she had told different stories or had achieved her present state of knowledge after being hypnotized concerns the question of the weight of the evidence which the trier of facts, in this case the jury, must decide" (cited in Laurence & Perry, 1988, p. 347). The jury found Harding guilty. This decision was to affect the admissibility of hypnotic testimony in the courts for many years afterwards (see Laurence & Perry, 1988,

p. 358 - 370 for examples).

In the USA, official recognition of the use of hypnosis for clinical purposes was given by the American Medical Association (Council on Mental Health, AMA) in 1958 and the American Psychological Association (APA) in 1960 (Udolf, 1983). Many have since interpreted this to also include the forensic utilization of hypnosis (Reiser, 1980) although this application was not discussed by either AMA or APA. This led to the indiscriminate application of hypnosis to victims and eyewitnesses by 'experts' with varying levels of expertise (Orne, M., et al., 1984, p. 195). Indeed, training programs of short duration were quickly established at the Law Enforcement Institute of Hypnosis (a private business owned by Reiser while he was Director of the Behavioural Sciences Services at the Los Angeles Police Department) in California to train police officers in the use of hypno-investigative procedures (Reiser, 1980).

The practice spread to other countries which was noted by the Honourable Justice M.D. Kirby, Chairman of the Australia Law Reform Commission. Kirby (1984) indicated that more than 1000 policemen in the USA had been trained in the Reiser method, that hypnosis was reported to be used in the United Kingdom (UK) between 25 - 30 times per year, and that the practice had been reported in Australia as well (Grant, 1977). Hypnotically derived testimony was eventually disallowed (Walker, 1988) in an Australian case where an eyewitness during hypnosis confabulated a car license number which happened to match a real one and led to the false arrest of a man for a burglary charge.

In Canada, the use by the police of hypnosis to "refresh" the memory of witnesses, etc. has been in practice at least since 1980 (Perry & Laurence, 1983; Bélanger, Laurence, & Perry, 1984). During this period in Quebec, police officers who had been trained at Reiser's Institute, reported using hypnosis in 67 cases and claimed that of this number, ten cases were resolved through

additional information obtained during hypnosis (Laurence & Perry, 1988). However, very few legal decisions have been made regarding hypno-investigative practices in the Canadian courts. Two, which involved confessions during hypnosis, were disallowed on the basis that they were not voluntary confessions (Rex v Booher, 1928; Horvath v The Queen, cited in Bélanger, Laurence, & Perry, 1984, p. 894). In another case a woman, charged with her husband's murder, requested that hypnosis be used in the court before the jury to lift her 'amnesia' of the event; she was given permission to be hypnotized (Hanley, 1969). In a case where two people were killed in a car accident, an individual was charged with criminal negligence based upon the eyewitness testimony derived during hypnosis of a passenger who had been in the car with the accused in the accident. The Judge disallowed the testimony on the basis that the witness may have been unduly influenced during hypnosis to please the investigator and that hypnosis itself was not "akin to scientific procedures which have been admitted in Court" (Bélanger, et al., 1984, p. 895).

Two other cases, where hypnosis had been used, never reached the courts. One of them which involved testimony regarding a car accident was settled out of court after the hypnotic recall was found to exonerate the defendant (Crockett et al. v Haithwaite et al., 1978). The second (Regina v Zubot, 1981), involved a woman who had identified a man as the murderer of her neighbour. In his charge to the jury, the judge pointed out that the identification had been made in questionable light conditions at a distance of over 20 feet, that the woman knew that Zubot was a suspect prior to being hypnotized, and that the woman's testimony was not corroborated independently. Not unexpectedly, Zubot was acquitted (Bélanger, et al., 1984).

In the USA, the issue of admissibility of hypnotic testimony has been given considerable attention. Those who wished to include such testimony argued that hypnosis was just one among many ways of obtaining evidence

and that it was up to each court to determine whether it would be accepted or not. Decisions which led to the admission of hypnotically derived testimony include Harding vs State, 1968; State vs Jorgensen, 1971; Kline vs Ford Motor Co., Inc., 1975; State vs McQueen, 1978; and USA vs Adams, 1978 (cited in Orne, M., et al., 1984, p.201). Those who wished to exclude it did so on the basis that hypnotic testimony is unreliable. The Frye criterion test (Frye vs USA, 1923) of general acceptability of a specific procedure within the relevant scientific community was applied leading to the rejection of hypnotic testimony in the courts in nine states (Orne, M., et al., 1984, p.202).

Both the Society for Clinical and Experimental Hypnosis (SCEH, 1978) as well as the International Society of Hypnosis (ISH, 1979) adopted resolutions incorporating guidelines developed by Orne (1979). These guidelines specified that the forensic use of hypnosis should be limited to obtaining leads which must be corroborated independently. The guidelines stipulated that the hypnotist should be trained in a health science profession such as psychiatry, psychology or social work and have additional training in the forensic use of hypnosis. In addition, they stipulate that all contact with the hypnotist including the pre hypnosis and post hypnosis sessions be videotaped in a specific manner and that the number of people present be limited to the hypnotist and subject.

The guidelines further stipulated that a prehypnosis recall be obtained from the victim or witness to serve as a baseline against which to evaluate any novel material derived in hypnosis. They emphasized, in particular, that appropriate hypnotic induction and memory retrieval techniques be used, namely free recall both for the pre-hypnosis baseline and initially in the hypnotic interview. After the initial free recall in hypnosis more direct questioning is permitted if necessary, but it is recognized that responses to leading questions are likely to be less reliable. Additionally, post hypnotic suggestions to the effect that the subject will have enhanced memory capacity

is prescribed as unduly suggestive as such a practice may also distort memory and increase confidence for a false memory. Therefore, post hypnotic suggestions were to be avoided. The guidelines also stated that provision should be made for clinical follow-up where necessary and that special procedures should be observed in those instances where a criminal witness who had previously been hypnotized became a crime suspect (Orne M., et al., 1984).

These guidelines were modified slightly by the FBI (Ault, 1979) and became FBI policy in 1980 (Ault, 1980). In State vs Hurd (1981), the court decided that 'hypnotically refreshed' recall could be used as evidence provided the main procedural guidelines developed by Orne were followed. The judgement, however, neglected to include some of the essential details of the Orne guidelines, for example, the requirement that the recall must be taken as a 'free' recall and that the hypnoinvestigator must have had additional forensic training.

In 1986, the AMA acknowledged the dangers of using hypnosis in the forensic situation. The Council concluded that hypnosis should only be used as a last resort and conducted according to the Orne (1979) guidelines. In the UK, in 1984, the Council of the British Society for Experimental and Clinical Hypnosis (BSECH) (Wagstaff, 1985) stated that under no circumstances should hypnosis be used in a police investigation. This led to the development of the Home Office Guidelines, Draft 1 in 1984 (Gibson, 1985) and Draft 2 in 1987 (Gibson, 1988) for the use of hypnosis or guided imagery. Despite this, many authors still felt that both hypnosis and guided imagery should be outlawed entirely from police investigations (Gibson, 1985; 1988; Gudjonsson, 1985; Perry & Nogrady, 1985; Wagstaff, 1985). The Australian Society of Hypnosis also adopted the USA guidelines and pressed for the judicial system to reject the acceptance of 'hypnotically refreshed' memory in the courts (Sheehan, 1988a).

In 1984, in Canada, a judge (Queen v Clark) informed the court that in principle "there would appear to be nothing to distinguish hypnotically-refreshed testimony from testimony refreshed by other means" (cited in Laurence & Perry, 1988, p. 377). He pointed to some of the inherent problems in using hypnosis such as 'memory hardening' (that is, the confident acceptance of a false memory as veridical) and recommended that the safeguards proposed in State v Hurd (1981) be utilized. To date, there has been a commitment, in some provinces, for the police to collaborate with hypnosis researchers, to only use qualified personnel and to follow the Orne guidelines (Bélanger, et al., 1984).

At this point in time, there is no legislation in either the Provincial or Federal courts regarding the use of hypnosis in police investigations (Laurence & Perry, 1988). This matter is of particular concern in Canada, as like other countries in the world, one does not have to report pre-trial hypno-investigative procedures with eyewitnesses, victims, or suspects. This leaves the judge and jury to assess the testimony presented in court simply on its apparent merits unaware that memory may have been modified by hypnosis. By contrast, courts insist upon mandatory reporting of police line-up procedures. Researchers, who have conducted experiments on hypnosis and memory, argue that legislation be introduced to require mandatory reporting of the fact that hypnosis has been utilized in a police investigation and insist that Orne's guidelines be strictly followed (Orne, M., et al., 1984; Laurence & Perry, 1988).

### **The Nature of Hypnosis**

Despite many disagreements about hypnosis, there is also considerable consensus about its most distinguishing features. Hypnosis is a situation in which a subject is asked to set aside critical judgement without totally abandoning it, and is asked also to engage in fantasy and make-believe (Gill &

Brenman, 1959; Hilgard, E.R., 1977). Hypnotic susceptibility has been found to be a relatively stable characteristic of an individual and is regarded as a skill or ability which a person has to a greater or lesser degree. It has been found that 10 - 15% are highly responsive and are capable of post-hypnotic amnesia (HIGHS) and 10 - 15% are minimally responsive or completely unresponsive (LOWS). The majority (70 -80%) are able to experience some, but not all, of the suggested phenomena that are part of a hypnotic induction (MEDIUMS)(Hilgard, E.R, 1965; Perry, 1977). The degree to which an individual may experience the phenomena of hypnosis, determines the extent to which hypnosis may alter a person's perception, mood, motor acts, and/or memory (Orne,1980; Council on Scientific Affairs, AMA, 1986). Most subjects describe the subjective experience as one in which they respond involuntarily to the hypnotic suggestions (Council on Scientific Affairs, AMA, 1986).

An example of this is age regression which is a differential phenomenon. Approximately 50% of highly hypnotizable subjects have been found to report a dualistic reliving of an earlier age in which they experience being an adult or child either simultaneously or in alternation. The other 50% experience it as a 'quasi-literal' regression in which they feel they were the suggested age and had no sense of their adult identity (Perry & Walsh, 1978). This phenomena can be so subjectively real to subjects that many of them experience difficulty following hypnosis in determining whether their recall was of an actual reliving of a past age or experience or a recall of a very vivid mixture of real and false memories (Perry, Laurence, D'Eon, & Tallant, 1988).

A number of investigators have described hypnosis in similar terms, such as "imaginative involvement" (J. Hilgard, 1979) and "believed-in" imaginings (Sarbin & Coe, 1972) almost to the point of being a 'delusion' in which imagined events appear real (Sutcliffe, 1961). Wilson and Barber (1983)



characterized high susceptibles as being "fantasy addicts" who may have difficulty separating fact from fantasy and real from imagined events in their daily lives. Some take a 'social-psychological' perspective believing that social demands and expectations of the hypnotic context play the more significant role in the hypnotic behaviours that emerge (Perry, 1992). These authors believe that subjects voluntarily think along with and experience suggestion-related imaginings while in the hypnotic context (Spanos & Barber, 1974). Tellegen (1978/1979, p. 220), on the other hand, described hypnotizability as "the ability to represent suggested events and states imaginatively and inactively in such a manner that they are experienced as real". This 'inner process' perspective has support from other investigators who view a subject's capacity for imagery and absorption, dissociation and automaticity as highly relevant to their hypnotic response (Perry, 1992). Current thinking has moved from this either/or position toward a 'synergistic' model of hypnosis in which one can evaluate the impact of a combination of influences on an individual's hypnotic experience (Nadon, Laurence, & Perry, 1991).

These abilities of the individual may be very useful in hypnotherapy in the clinical setting where the focus is on subjective recall. Here the clinician is not concerned whether memories of traumatic events are veridical or are current memories of events that did not happen. In the forensic situation, the focus is on objective recall, that is, to obtain details of the crime event which will lead to a prosecution. In this case, the very nature of hypnosis and the hypnotic experience itself, particularly for high susceptibles, may interfere with objective memories (Perry, et al., 1988). It has further been observed that the various contexts in which the hypnotic induction is conducted and/or contextual clues in the hypnosis session may influence the responses of the hypnotized subject (Spanos & Barber, 1974). Again, this may be particularly relevant for the context and manner in which investigative

police hypnosis is conducted (Perry & Laurence, 1983).

### **Proponents of Hypnosis for Forensic Purposes**

The main proponents of forensic hypnosis, characteristically, provide anecdotal reports of the benefits of the hypno-investigative process at conferences and in professional journals. One case report described a hypno-investigation which appears to solve a kidnapping and rape case due to the revelation of new details of the car interior and conversations overheard (Kroger & Douc , 1980). In other cases, hypnosis was said to variously elicit details of the murderer of a woman's boyfriend killed in her presence while she was drunk, in another, a description from a mother of the kidnapper of her child, and, in a third, of a burglar who had shot a police officer (Reiser, 1976). However, no independent physical corroboration was presented in these reports.

Other similar seemingly corroborated instances have likewise been recorded in the professional literature (Crasilneck, 1980; Mutter, 1980, 1984, 1990). In one case (Kroger & Douc , 1980), for example, hypnosis yielded two licence plate numbers in the Chowchilla kidnapping case which involved a school bus of children who had been sequestered in an abandoned quarry. In hypnosis, the school bus driver's recall of one of the licence plate numbers was found to be incorrect; the other was correct to all but one figure. These authors, however, did not specify what independent physical evidence verified the near correctness of this second number (Perry, et al., 1988).

A few accounts have been made by practitioners that some witnesses could not be hypnotized or that the information obtained was accurate but not relevant to the case. In these cases, hypnosis was not considered to be the procedure responsible for the solution (Kroger & Douc , 1980). Several instances of simulation have been reported, such as, a case in which two boys planned a wrong description of an assailant prior to hypnosis and a case in

which a drug-addicted female wished to gain favour by assisting the police but without accepting responsibility for her testimony (MacLeod, 1988).

Sometimes a witness has been unmotivated to recall details in hypnosis due to their original role in the situation as, for example, in the case of a man suffering from a gunshot wound incurred in a shootout he had had with the person killed in the fight (MacLeod, 1988). However, since accounts of failures of the hypno-investigative process are far fewer than the reports of successes, many practitioners question the bias or self-selection of the cases which are recounted by the proponents of the forensic use of hypnosis over and above the lack of independent corroboration (Cohen, 1980; Gravitz, 1980).

Dr. Martin Reiser, a psychologist with the Los Angeles Police Department, was a major advocate for police officers to use hypnosis as part of their investigative procedures (Reiser, 1976). He believes in a cybernetic model of memory in which he felt the brain stored information much like a "giant computerised videotape recorder" (Reiser, 1976, p. 40). This was conceptualized as having the capacity to replay exact details of a remembered event, to do so in slow motion, to freeze-frame, and to "zoom-in" on particulars. He maintained that "perception and recording occur subconsciously at cerebellar levels as well as at a conscious cortical level" (Reiser & Nielson, 1980, p. 75). He stated also that "information is stored veridically at the level of the subconscious, which is alert and on duty 24 hours per day, seven days per week; it never sleeps" (Reiser, 1980, p. 11). Reiser concluded that hypnosis was an ideal tool by which to age regress an individual to the time of a particular event, to relax him or her so that suppressed or repressed material could come to conscious awareness, and through instructions during hypnosis, that represent memory as a videotape recorder, to help them to 'refresh' and increase their memories (Reiser, 1976; 1980; Reiser & Nielson, 1980). So convinced was he that he enthusiastically stated "the science of hypnosis will become just as valuable in our fight

against crime as fingerprinting is today" (Reiser, 1976, p. 40).

In order to test the feasibility of training police officers in the investigative use of hypnosis (Reiser & Nielson, 1980) and to determine whether the procedures were effective and cost-effective (Reiser, 1976), Reiser designed and implemented a one year Research Demonstration Project in 1974 with the Los Angeles Police Department. The project had three phases with Phase I consisting of a 48 hour training program, taught by skilled hypnotherapists, on the theory and practice of hypnosis in the legal situation (see outline of curricula in Reiser & Nielson, 1980, Addendum No. 2, p. 80 - 81). In Phase II, teams consisting of an operator (hypnotist) and evaluator (recorder), were assigned specific criminal cases to investigate using hypnosis under the supervision of a consultant. Approximately eight months later, the teams worked autonomously on cases with a consultant as a backup if necessary. At the end of one year, these investigator hypno-technicians, had worked with 70 volunteers, that is, witnesses or victims of a crime. They claimed that, in 77% of the sessions, important relevant information, which had not been available before, was revealed leading to the solution of 16% of the cases in which hypnosis had been used (Reiser & Nielson, 1980). The results of this pilot study led to the development of the Law Enforcement Hypnosis Institute where training in hypno-investigative techniques existed for most of the 1980's.

By 1979, the L.A. Police Department had used hypnosis in 400 sessions, with 80.2% (N=378) of them imparting new details in hypnosis which were considered 'valuable' 67.5% (N=372) of the time. On follow-up they found that 31.3% (N=120) of the cases had been solved (Reiser & Nielson, 1980). However, only eight of these cases were rated by the investigating officers as "probably would not have been solved without hypnosis", that is,  $8/120 = 6.7\%$  or  $8/383$  (base) = 2.09%. With this small number of successes, one has to wonder how the terms "of some value", "very valuable", and "extremely

valuable" were defined by the police.

In a later paper, Reiser (1985) claimed that in 600 cases with cooperative witnesses, hypnosis proved useful in approximately 75% of the cases. Although only 50% of these cases were able to be followed-up completely, it was found that the accuracy of the hypnotically derived testimony was 90%. Despite the impressive conclusions in favour of the investigative use of hypnosis, neither of these papers indicate how the recall was evaluated to determine whether it was correct, erroneous or relevant and/or how the data were analyzed to arrive at these statistics. One is left with the impression that these are police "happiness" ratings rather than accurate indices of the actual utility of hypnosis as an investigative tool.

Although the authors stipulated that investigative hypnotic techniques should be limited to "nonsuspect, cooperative volunteers" (Reiser & Nielson, 1980, p. 77), they also claimed they had no fears regarding confabulation, stating that it "does not routinely or invariably occur" (Reiser, 1985, p. 515), or about implanted or erroneous memories in hypnosis. Reiser (1985) argued, that in the legal situation, eyewitness testimony does not need to be fully accurate to be admissible. Indeed he claimed that accuracy of information whether hypnotically derived or not is not as important as obtaining "information having probative value" (Reiser, 1985, p. 516). Reiser and Nielson (1980) also claimed not to have seen any adverse psychological reactions in the volunteers. This, they believed, was primarily due to the hypnotic instructions for crime victims or witnesses to dissociate any affect from their recall and to report details of memory in the third person. This point is seriously questioned by clinicians who utilize hypnosis and who often treat the victims of rape, assault, and other such major crimes. They have found that if affective material is not dealt with at the appropriate time that these individuals are liable to suffer consequences later on. (Cohen, 1980).

Nevertheless, in 1980, Reiser published a book, entitled Handbook of

Investigative Hypnosis which became the basic textbook for trainees (See Perry & Laurence, 1982 for a review). Chapter 31 entitled TV and Other Retrieval Techniques, specifically describes the advocated hypno-investigative induction which incorporates and capitalizes on his main assumption of the memory process, that is, the belief that the mind is a videorecorder of fact.

In a pilot study by Kroger and Doucé (1980), a team approach was utilized consisting of a medical hypnotist who took the pre hypnosis mental examination of the volunteer, explained hypnosis, conducted the hypnotic induction modelled after Reiser's TV technique, and an FBI agent who performed the investigative hypnosis interview. The latter, on occasion, was held in the presence of a police artist. The study involved 53 witnesses or victims, ages 7 - 65, for 23 forensic cases with only three nonhypnotizable subjects. The authors claim that in over 60% of the cases, the hypno-investigative process led to new leads, however, no data were presented to indicate how they arrived at this conclusion. They stated also that the pre hypnosis sessions were used to build the prestige of the hypnotist and to provide positive information about hypnosis in order to motivate the victims and witnesses and to increase their belief in hypnosis. The authors state "Hypnosis is the induction of conviction" (Kroger & Doucé, 1980, p. 87) but do not seem to perceive that the pre-hypnosis indoctrination may influence the recall of the subjects or their belief in that recall. Acknowledging that there may be some pitfalls in using hypnosis, they strongly recommended that it not be used with suspects who they believed may lie, confabulate, or simulate to avoid discovery. Unfortunately, they ignored the possibility that this could happen with any witness although perhaps not as frequently. They did, however, stress that information obtained must be verified by independent corroboration.

In all of these studies, there is a lack of documentation and analysis of

the new information obtained in hypnosis in terms of its accuracy and relevance. This makes it extremely difficult to know whether hypnosis was the decisive factor in obtaining the data or whether some less time-consuming procedure would have been as useful (Cohen, 1980; Gravitz, 1980).

Griffin (1980) conducted an experiment in which five groups of college students viewed a film (28 min.) containing 11 short sequences of simulated crimes ranging from a murder to a theft. Immediately following the film, all subjects were asked, through non-leading questions, to recall what they had seen. Subjects were then divided into 5 groups for subsequent recall sessions which were held with or without hypnosis at varying times within the first 15 days for Test 2, for the next 30 days for Test 3, and at 40 days for Test 4. The material from the recalls was analyzed and scored as to whether it was perfect (2), useful (1), "I don't know" (0), or given a negative score (-1) if it was false or leading information. Pearson Product Moment Correlations were calculated to see if there was a relationship between high memory scores and the degree to which the subject was hypnotized. Results showed a non-significant correlation between all groups for the pre-hypnosis recall at Test 1, a positive significant correlation for the two hypnotized groups and memory (Groups 1 and 2,  $r = .45$ ,  $p < .001$ ) at Test 2 and a positive significant correlation for Group 2 (second hypnosis session) and memory ( $r = .27$ ,  $p < .03$ ) at Test 3. There were non-significant correlations for the non-hypnotized groups and memory at Tests 2 and 3 and for all groups at Test 4. A similar correlation, using the negative scores (false or misleading information) for each group and test found no statistically significant relationship.

The author felt these results were very encouraging to police organizations as they indicated that memory was enhanced by hypnosis. He stated further that the results indicated hypnosis did not lead to an increase in confabulation provided non-leading questioning was used. It should be

noted that the hypnosis groups (Groups 1 and 2) were retested earlier (2 - 13 days) than the other groups (15 days) at Test 2. Group 2 was also retested earlier for Test 3 (18 - 28 days) than all the other groups (30 days). The closer proximity of the retests to the original viewing of the film may have been a factor influencing the more accurate memory scores of the hypnotized subjects.

Some practitioners question the influence of the coerciveness of the police investigative context (bodyguards with guns, etc.) on eyewitness compliance as well as the desire of witnesses to be 'helpful' to the police (Gravitz, 1980). Others feel that the time-saving aspects of the hypno-investigative situation may have been oversold to the police (Perry & Nadon, 1985), and, that matters, such as being blind to the case, avoiding bias by being outside the legal system (Mutter, 1990), the nature of the induction, ability to detect simulators or confabulators, the role of abreaction as a measure of truth, depth of hypnosis, and time delay from the actual event to the police investigation are of greater importance (Gravitz, 1980).

Reiser (1985) stated that attacks on the police use of hypno-investigative procedures stemmed more from territorial issues than scientific evidence as to the hazards of hypnosis in the legal situation. He condemned the restrictions imposed on the use of hypnotically derived testimony as he felt it seriously impinged on the rights of the victim to be heard. He also argued that there was no solid evidence to indicate that hypnotized subjects confabulated more than nonhypnotized individuals or were prone to more errors of memory (Reiser, 1985). The numerous legal cases and experimental studies which demonstrate the contrary will be discussed in a later section.

In Britain, the Home Office Guidelines proposed that using guided imagery might be more useful and less hazardous to the legal situation (Gibson, 1985; 1988). Since, however, research had shown guided imagery to



be closely related to a hypnosis-like experience (Perry & Nogrady, 1985) the recipients might be as equally vulnerable to errors of memory (Perry & Nadon, 1985). Haward (1988) noted there were no scientific *in vivo* studies of actual criminal cases in the UK and that all reports of success were anecdotal. Despite this, he stated that, until such time as proper documentation, follow-up, and assessment of the effectiveness or negative aspects of using hypnosis was undertaken, it was inappropriate for the Home Secretary to discontinue the practice. Furthermore, he argued that until such studies demonstrated hypnosis to be harmful, the results of laboratory experiments were insufficient reason to deprive real victims and witnesses of the opportunity to help their case.

The British courts had already ruled that individuals who had been hypnotized could not testify in court and that all hypnotically derived material must be corroborated independently. Notwithstanding, Haward (1988) felt there were sufficient safeguards in place, and, therefore, hypnotically derived information was no more harmful than any other eyewitness testimony which could be erroneous as well. He felt also that the restriction on information about the case to the hypnotist jeopardized the possibility of helping the volunteer to regress in hypnosis to the environment in which the original crime took place.

Another issue, concerning the admissibility of hypnotically derived testimony, appeared in the U.S.A. where Beahrs (1988) pointed out that victims of a crime, who might normally be treated by hypnosis, could have their legal case jeopardized if their therapist tried to deal with their psychological needs by utilizing hypnosis. This, he felt, interfered with the rights of the victim. He further noted that many individuals, particularly certain clinical populations, may have a hypnosis-like experience in a very stressful situation spontaneously and wondered if this should be excluded from testimony as well. In addition, Beahrs questioned whether science

could explain enough about the nature of hypnosis and its impact on memory to justify its exclusion as a forensic tool.

Furthermore, he stressed that the use of hypno-investigative procedures should be limited to those cases where the possibility of obtaining new leads is greater than the hazards of confabulation and where independent corroboration is possible. Unfortunately, it would be extremely difficult if not impossible to be able to know this in advance! Behrs concluded by stating that the burden of proof as to the disadvantages of using hypnosis in the forensic situation rested with those who wished to exclude it. The same could be said as equally of those who favour its utilization as an investigative procedure. Indeed, if, as Behrs contends, science does not know a sufficient amount about hypnosis to justify its exclusion then such a state of affairs might also mitigate against its forensic application.

### **Opponents of Hypnosis for Forensic Purposes**

The main opponents of the use of hypnosis for forensic purposes are psychiatrists and psychologists who have engaged in legal cases as experts on hypnosis and/or who have conducted research into the effects of hypnosis on memory (Orne, M., Dinges, Orne, E.C., 1990; Perry & Laurence, 1989; 1990). The qualifications of the hypno-investigative technicians (police officers) to deal with the affective difficulties of victims of crime as well as the potential bias due to their role as investigators for the Prosecution are an issue for these health professionals (Orne, 1988; Wagstaff, 1988).

The primary reason for their opposition, however, stems from the fact that eyewitness testimony is considered unreliable in and of itself (Udolf, 1990) and even more so if it has been elicited in hypnosis (Levitt, 1990; Perry & Laurence, 1989; Udolf, 1990). It has been well documented that hypnosis increases productivity, but that most of the novel material is error (Orne, M., et al., 1990). In addition, subjects will be very confident about their memories

in hypnosis regardless of whether they are accurate or not (Margolin & Coliver, 1983; Orne, M., et al., 1990). It has been observed that, a confident witness, particularly one who reports considerable detail, has a very persuasive influence on a judge and jury and can be impervious to cross-examination (Odgers, 1988). Further, the general public's belief that hypnosis uncovers the truth may make a previously hypnotized witness highly credible to a jury (Orne, 1988). These factors in combination lead to an increased belief in the accuracy of the witness (Margolin & Coliver, 1983; Odgers, 1988; Wagstaff, 1988).

Indeed, the post hypnotic witness appears both "convincing and convinced of the accuracy of his or her story" (Margolin & Coliver, 1983, p. 46). This conviction, or 'memory hardening' (Rock v Arkansas, 1987, p. 16), on the witness's part, is considered by some to make them resistant to cross-examination (Orne, M., et al., 1990). Those opposed to the forensic use of hypnosis believe these factors can lead to prejudicial legal decisions and miscarriages of justice (Margolin & Coliver, 1983; Odgers, 1988; Perry & Laurence, 1990).

There have been several instances of false identifications when hypnosis was used. For example, a case reported by Karlin (1983) involved a young woman who was raped from behind by a short, stocky, black man whose face she did not see. Two months later, in hypnosis, she remarked that the man was similar to her neighbour and seemed to have a key to the apartment. The victim meant that the rapist's accent was similar; the hypnotist, however, took it to mean appearance, asked her to visually describe the neighbour, and then to construct a face similar to the neighbour's and finally to remember the face. In essence she was asked to create a new face in hypnosis. Several weeks later, when she saw a man who resembled the created face, she reported him and he was arrested. Despite his lack of an alibi, the results of his polygraphic testimony supported his claim of

innocence. Fortunately for the suspect this case never reached court as the victim moved out of state. Otherwise he might have been falsely convicted.

In another case, a woman who had been assaulted and burglarized, originally stated she was unable to see her assailant's face, could not identify anyone in a photo-lineup, but estimated that the man was 5'6" tall. In hypnosis she changed the height to 6'3" tall which led to the arrest of a male ex-convict. The victim, having read the suspect's description in the paper, described a burglar similar to the arrested man in a subsequent hypnosis session and then later very confidently selected him from a photo-lineup. The policeman who conducted the hypno-investigation was felt to have suggested other characteristics of the ex-convict to the victim as well. The court dismissed the case on the grounds that the procedure had created a pseudomemory which led to the false identification of the accused (Karlin, 1983).

In Zani vs State, 1988 (cited in Perry & Laurence, 1990), a man was convicted of a burglary/murder due to a positive identification from an original witness derived in a hypno-investigation 13 years after the crime. At the time of the original investigation the witness had said that Zani was similar looking to the murderer. Due to the circumstantial evidence, however, that is, difference in the murder gun vs Zani's gun, amount of money stolen, etc., no charges were laid. Zani appealed the second case on several grounds such as that hypnotically derived testimony was inadmissible, the duration of the time delay, and the use of the same circumstantial evidence as before. He argued that appropriate safeguards had not been used; that expert opinion on hypnosis had been disallowed and that the judge erred by not explaining hypnosis and its inherent difficulties to the jury. The court's counter arguments were that all testimony is subject to error so that hypnotically derived testimony is as equally admissible, that hypnosis is reasonably reliable, that the videorecorder concept of memory had

been scientifically proven, and that the defendant's lawyer should have alerted the court of the dangers of hypnosis. The judge decided further that all circumstantial evidence against Zani had been corroborated in hypnosis.

On reviewing this case, the authors (Perry & Laurence, 1990) found that there was poor pre hypnosis evidence, disregard for scientific opinion and findings about the forensic use of hypnosis, and no new evidence obtained in hypnosis which could be corroborated independently. Therefore, it appeared that Zani was convicted on the basis of the evidence that had been deemed insufficient in the initial trial. They concluded that the evidence was only considered or reconsidered once the witness had been hypnotized. It would appear that hypnosis itself was well accepted by the judge and jury whose belief in the procedure led to Mr. Zani being sentenced to prison for 99 years for a murder which he may or may not have committed. Unfortunately, this legal decision will be used to influence future cases involving hypnosis.

Other examples of cases where the use or misuse of hypnosis was an issue are as follows. In Commonwealth vs Smoyer, 1984 (Laurence & Perry, 1988) a man was convicted of aggravated assault, homicide by vehicle and involuntary manslaughter. He had been accused of purposively pursuing and bumping into his wife's car bumper and causing the car accident which led to her death; her son and a male friend survived. In pre hypnosis testimony a witness, the wife's male friend, recalled that the husband had struck the car two times. In hypnosis, which was conducted by a police officer three months after the accident, he recalled the car had been hit a third time just prior to the crash. In the original trial this damaging hypnotic testimony was admitted into evidence and was considered to have influenced the decision to convict Mr. Smoyer.

Upon appeal the court ruled that only the prehypnotic testimony was admissible. Even if three bump marks had been found it would have been impossible to prove that the third one occurred immediately prior to the

accident. In this case, Smoyer was in considerable legal trouble already. The admission of the hypnotically derived recall would have led to even more serious charges against him. Without the physical corroboration of the hypnotic testimony Mr. Smoyer was set free when the case was heard by the appellate court.

In another case, a woman accused of murdering her two children was hypnotized and through a very suggestive and aggressive hypno-investigative procedure developed a second personality which confessed to the murders. The testimony was disallowed for lack of supporting evidence. It was further considered that the hypnotic procedure used had been harmful to the woman and a serious abuse of the use of hypnosis (Coons, 1988).

Levitt (1990) described a case which illustrated how a victim's testimony can change from the pre to the hypnosis to the post-hypnosis session clearly underscoring the unreliability of hypnosis in eliciting eyewitness testimony. A female was raped by two men, one of whom she could identify but not the second. In hypnosis she was able to identify the second rapist with certainty, however, this certainty did not continue beyond hypnosis. Despite this, the second alleged rapist was convicted on the basis of the hypnotic testimony and sentenced to jail for 30 years. He appealed the decision on the grounds that the victim had never seen his face. On appeal, the court decided the victim's pre-hypnosis testimony, which contained information that could be supported independently with physical evidence, was sufficient to convict him. In this case, the unreliability of the victim's hypnotic testimony could have led to the release of the guilty rapist which again would have been a miscarriage of justice.

### **Rights of the defendant**

Although many would like to see the forensic use of hypnosis

disallowed entirely, several judges have noted the right of the defendant to testify and present the case in his or her own words (Rock v Arkansas, 1987). In this latter case, the events of which occurred in 1983, a woman was charged with manslaughter for the killing of her husband by a bullet through his chest. In pre hypnosis testimony, she said that the "gun went off and he fell and he died" (Rock v Arkansas, 1987, Supreme Court of the United States, 1990, p. 220). She was hypnotized twice to recall the details and in the post hypnosis recall remembered that the gun had discharged in a quarrel when her husband was trying to prevent her from leaving by choking her. The gun was investigated and found to be defective. Therefore, the Prosecution was able to exclude the defendant's hypnotic testimony and the court based its decision of manslaughter and a sentence of \$10,000 and 10 years in jail on the basis of the pre hypnosis testimony.

On Appeal (Rock v State of Arkansas, 1986), the woman argued that her right to defend herself had been curtailed by the limits set on her testimony. The judge, in the Supreme Court of Arkansas, upheld the earlier decision ruling that her hypnotic testimony was inadmissible in court saying it's dangers "outweighed whatever probative value it might have" (cited in Rock v Arkansas, 1987, p. 222). However, in the Supreme Court of the United States (Rock v Arkansas, 1987) the judge decided that the rights of the defendant took priority over state rules regarding the admissibility of hypnotically refreshed testimony.

Several authors have noted a lack of legal consistency on the admissibility of the hypnotically derived testimony of defendant's (Margolin & Culver, 1983; Udolf, 1990). As juries are well aware that defendants generally try to exonerate themselves and their testimony is somewhat self-serving the risk of prejudice is considered to be less (Margolin & Culver, 1983; Orne, M., et al., 1990; Perry & Laurence, 1990). Some judges have felt, therefore, that to protect the rights of the defendant, hypnotically derived

testimony must be permitted and that the trier of fact, the jury, will determine its reliability (Orne, M., et al., 1990; Margolin & Culver, 1983). Udolf (1990) argues that it is naive to expect a jury, in the face of a highly confident previously hypnotized defendant, to be able to determine whether the testimony is true or not.

### Victims and witnesses for the prosecution

Although the Rock v Arkansas (1987) decision was meant to be limited to defendants, this ruling was challenged by the Prosecution in Zani v State (1988) in the Texas Court of Appeal. The Prosecution argued that it was inequitable to limit admissibility of hypnotically derived testimony to defendants and exclude it from witnesses. Three of the appeal judges agreed with this viewpoint. The fourth judge argued the issue of admissibility vs equity by stating that prior to Rock v Arkansas (1987) most American states had excluded hypnotically derived testimony due to its scientific unreliability which made it inadmissible before the law. As there had been no change in its scientific status he felt that, although constitutionally the courts must uphold the defendant's rights to present evidence on their behalf, this constitutional obligation did not extend to witnesses. These two legal cases may well reverse trend the trend towards a *per se* exclusion with victims and witnesses (Perry & Laurence, 1990).

It has been noted that in hypnosis, a victim and/or witness may report new, erroneous confabulated memories which are retained as false memories following hypnosis (Hibler, 1984; Orne, M., et al., 1990). These believed-in memories tend to alter or contaminate the pre hypnosis recall creating what Spiegel referred to as "the honest liar" (Spiegel, H., 1980, cited in Orne, M., et al., 1990, p. 258). The victim and/or witness is frequently unable to remember the source of their memory, that is, whether it was from pre hypnosis, hypnosis, or post hypnosis recall and tend to attribute all of their memories to



the original pre hypnosis recall. This means that, even if the court only permits the witness to give testimony on their pre-hypnosis recall, their recollection of these memories may have been modified by those obtained in hypnosis and retained afterwards.

Furthermore, the confidence and increased peripheral detail of a previously hypnotized witness tends to increase his or her credibility to the jury. This is very worrisome as juries often think that victim and/or witness testimony is unbiased under the assumption that there is no motivation to give false testimony (Orne, 1988; Orne, M., et al., 1990). However, as Gravitz (1985) has pointed out many victims or witnesses may be resistant to the use of hypnosis for personal reasons, such as an individual's fears and beliefs about hypnosis. Or, a witness may feel shame related to his or her own activities while witnessing the crime; guilt due to his or her lack of intervention and/or embarrassment at having to describe intimate details of the crime. Some may identify with the suspect for socioeconomic, political or ethnic reasons or, alternatively, have antipathy toward the suspect and/or hypnotist based upon prior experience with similar persons. In other words, victims and witnesses may give false testimony in hypnosis for numerous motivations of which some may be deliberate and others unknown to themselves.

#### **Cautionary guidelines for the utilization of hypnosis for forensic purposes**

Hibler (1984) believed that hypnosis should only be used as a last resort after more traditional investigative procedures failed to provide any leads. He recommended it only be used for felonies due to the costs involved, only for cases where one is seeking additional details to previous testimony, and only when it is possible to corroborate the testimony with physical evidence. He particularly advocated that hypnosis not be used in cases where the suspect had already been publically identified or where a witness had

observed the police interact with a potential suspect. He cautioned against using hypnosis in cases where witnesses had discussed their recall together, where the victim or witness might have ulterior motives, and where the witness was reluctant or an involuntary participant.

Udolf (1990) also believed that, due to the unreliability of hypnotically refreshed memory, defendants fearful of unjust convictions have reason to be concerned about its use by the Prosecution. However, Orne, M., et al. (1990) argued that it is "patently less 'fair' to admit hypnotically refreshed testimony from witnesses than from defendants because the hypnotized witness's testimony often becomes part of the accusatory 'evidence', yet before hypnosis such witnesses could not provide credible testimony (or there would be no need to hypnotize them)." (p.261). These authors recommended that a bifurcate standard similar to that proposed by Kuplicki (1988) be used. This would mean that the courts "generally admits hypnotically refreshed testimony offered by defendants" (Orne, M., et al., 1990, p. 262) to preserve the right of the defendant to testify on their own behalf and "generally excludes hypnotically refreshed memories offered by the Prosecution" (Orne, M., et al., 1990, p. 262) to avoid the complications inherent in this type of testimony.

The Kuplicki solution is considered less acceptable by others (Odgers, 1988; Perry & Laurence, 1989; 1990; Udolf, 1990) who advocate that no hypnotic testimony be admitted unless the court ensure strict guidelines (Orne, 1979; Ault, 1979) are followed during the hypno-investigation. In addition, they stress that all hypnotically derived leads must be corroborated by independent evidence. This, of course, does not mean 'expert' testimony or one witness versus another. Some also feel there should be mandatory reporting of the forensic use of hypnosis with defendants and/or witnesses to the court (Odgers, 1988; Perry & Laurence, 1989; Udolf, 1990) regardless of whether the hypnotically derived testimony is admitted or not.

While those opposed to the forensic use of hypnosis have indicated

this clearly in their writings and through their presence in the courts as experts, some of them have also taken the lead in this controversial area by conducting research on hypnosis and memory and more specifically on hypnosis and eyewitness testimony.

### **Experimental Studies on Hypnosis and Memory**

The research in this area has generally focused on the impact of variables such as the memory task itself (meaningless vs meaningful stimuli), hypnotic susceptibility, type of hypnotic induction, and the suggestions or cues given in conjunction with the induction on the enhancement of accurate or erroneous memory.

In an early study by Stalnaker and Riddle (1932), 12 high susceptible subjects were asked to recall material (poems, etc.) memorized at least one year prior in a counterbalanced order of waking and hypnosis recall trials. The initial experimental recall, whether in the waking or hypnosis condition, was compared with the original poems in order to establish a score for correct words. These scores were then compared to determine whether there was an increase or decrease in correct recall in the direction of the change from the waking to hypnosis condition or vice versa. The results indicated that subjects recalled more material in the hypnosis condition particularly if the recalls were in the Waking - Hypnosis sequence. The mean gain for total words recalled was 54% and for correct words it was 67%. The experimenters noted that much of the word gain was due to error as subjects tended to improvise or confabulate plausible lines in hypnosis but in the waking recall left the line blank. It would appear, therefore, that while subjects are more productive in hypnosis their standard for accuracy is lowered possibly due to the disinhibiting aspect of relaxation in hypnosis (Orne, M.T., Whitehouse, Dinges, Orne, E.C., 1988). Although this study claims to show an increased memory effect for hypnosis, it more clearly demonstrates the

"pseudohypermnestic effects of hypnosis" (Orne, M.T., et al., 1988, p. 37) by illustrating the types of errors and/or confabulations that are liable to occur in hypnosis as compared to the waking state.

In a study by Salzberg & DePiano (1980), 60 subjects (30 Highs and 30 Lows), performed three two-minute cognitive tasks (memory, digit symbol substitution, and abstract reasoning) to provide a baseline measure of cognitive performance. Following this, subjects were randomly assigned (10 Highs and 10 Lows - the latter given instructions to simulate hypnosis) to one of three experimental conditions, that is, a traditional hypnotic induction, an alert trance induction, or a no induction control condition. All subjects in the three conditions received task motivating suggestions prior to repeating the tasks. The results showed that task motivating suggestions enhanced cognitive performance overall, regardless of the experimental condition or hypnotic susceptibility. This was significant for the digit symbol substitution and abstract reasoning tasks but not the memory task. The overall significance of this study was that the inclusion of control groups made it easier to see whether or not hypnosis enhances cognitive performance, and, in this case, it did not.

In another study by Baker, Haynes and Patrick (1983) sixty high susceptible subjects were assigned to one of four experimental conditions and were asked to try and recall on two separate occasions (Recall 1, session one; Recall 2, one week later) a two minute display of four pairs of nonsense syllables and four pairs of numbers in a central circle (memory task) surrounded by 23 photographs of ordinary objects, e.g. book, teddy bear, suitcase, etc. (incidental memory task). The experimental conditions were as follows: Group A- awake, discussion on childhood memories, recall 1 wearing goggles to equate closed eyes in hypnosis, and then hypnosis prior to recall 2 one week later; Group B -awake, progressive relaxation, goggles during recall 1 and hypnosis prior to the second recall; Group C and D

experienced their first recall in a hypnotic induction which utilized a television-monitoring memory approach based upon Reiser's (1980) technique. For the second recall, Group C participated in the discussion on childhood memories and Group D in the progressive relaxation. In this way each subject acted as his/her own control as the experimental conditions were counterbalanced. A standard investigative recall procedure was used which consisted of a free recall of the nonsense syllables and 45 questions on the display of which 11 were about objects which were not present. A confidence rating was taken for each response.

The results found no significance differences between the groups for memory (nonsense syllables), incidental memory (ordinary objects) or the erroneous suggested items, however, the hypnosis condition did lead to a greater amount of recall. The confidence values also were not significant. The overall conclusion was that hypnosis did not enhance memory either for nonsense syllables or for incidental objects. The authors felt the results supported a constructionist view of memory as, even when not hypnotized, subjects tended to construct a memory around a suggested item even if it had not been part of the original display. They urged future research to use more real-life situations in experiments in order to assess whether more emotional phenomena or the affective state of the subject might influence memory during hypnosis.

Two processing strategies were studied in experiments conducted by Shields and Knox (1986). 'Deep' level processing meant that subjects were asked to assign each meaningless word to one of five categories while 'shallow' level processing meant subjects had to attend to the structural attributes of a word, that is, whether it contained the letter *e* or not. Here the underlying assumption was that even meaningless material is better recalled when it is linked to a meaningful context. The results indicated that the correct recall and recognition of auditorially (Study 1) or visually (Study 2)

presented meaningless words is enhanced in the hypnotic condition with high susceptible subjects provided the words were originally processed using the 'deep' level processing strategy. This finding not only did not occur for the 'shallow' processed words for any of the experimental groups (hypnosis (highs), relaxation (highs) or simulator (lows) hypnosis) but more errors were found with this strategy. While these results contradict the findings of other studies, it should be noted that as no waking memory baseline measures were taken the comparisons are limited to the experimental conditions and the cognitive strategies employed for learning. A waking memory baseline, which is more typical of the forensic situation, might have enabled the experimenters to see whether the cognitive strategy itself, the hypnotic susceptibility level of the individual, and/or the introduction of the experimental condition played a role in the enhancement of the recall and recognition of the words. To date these findings have not been replicated.

Retrieval cues were found to enhance the memory of visually presented concrete nouns regardless of hypnotic susceptibility level (high, medium, low) and experimental condition (hypnosis vs geometric puzzle and motivating instructions) (Murray-Smith, Kinoshita, & McConkey, 1990). Words which had been cued, whether correctly or incorrectly, were remembered more. In this experiment no waking and only one hypnosis recall was taken which could possibly mean that not all the memories had been retrieved. Repeated recalls without hypnosis (a common practice in the forensic setting) have been found to increase productivity (Nogrody, McConkey, & Perry, 1985), therefore, future studies should consider the impact of retrieval cues in influencing recall over time. Perhaps of greater significance to the hypno-investigator is that cueing, whether correct, incorrect, intentional or not, has an impact on memory.

Several studies have examined the effect of hypnotic susceptibility level and hypnosis on the recall or recognition of standard line drawings or

geometric shapes (Dwyan & Bowers, 1983; Friedman & Taub, 1990; Nogrady, et al., 1985). In the study of Dwyan and Bowers (1983) subjects observed 60 slides of line drawings followed by a forced recall procedure for nine recall tests over a week and then were randomly assigned to a hypnosis or control group where another recall was taken. The results showed that recall increased by 27% from the first to ninth test and in the hypnosis condition it doubled for both correct and incorrect information. High susceptible subjects showed the greatest increase. In addition, a significant increase in new errors was found in the hypnosis condition. The study was replicated with the same results leading the authors to conclude that the small gain in correct recall was far outweighed by the gain in incorrect information.

Nogrady, et al. (1985) conducted a study with similar stimuli, three experimental conditions (hypnosis, imagination, control), and six recalls using a free recall procedure, two of which were taken following the experimental condition. The results indicated a significant increase in total correct and incorrect recall over time regardless of the hypnosis or imagination condition. High susceptibles were found to produce significantly more new correct and new errors over time. Further, high susceptibles had higher confidence ratings than lows for correct recall, and, in the hypnosis condition also were more highly confident of their errors. The overall conclusion was that hypnosis does not improve memory but serves to make subjects more confident about their recall whether erroneous or not. These findings have significance for the applied forensic situation.

In a more recent study (Friedman & Taub, 1990), subjects participated in a visual memory for shapes (92 random configurations) task and then were assigned to one of four experimental conditions (High -hypnosis; high-control; Low - simulated hypnosis; low - control) in which the task was repeated. All groups, except the high-control group, significantly increased their performance on the second test which might be attributed to a practice

effect. Overall, even with replicated experiments, this study found no support for the hypothesis that hypnosis can facilitate cognitive task performance.

Hypothesizing that real crimes occur suddenly and are generally over before witnesses begin to remember events, Mingay (1985 - 1986) sought to examine the effect of hypnosis and hypnotic susceptibility on two incidental memory tasks. Subjects viewed and were questioned via a Yes/No format on two slides of landscape scenes and also were asked to respond by Yes/No/or Don't Know to 24 forced choice questions about streets in Cambridge, England. High and low susceptible subjects were assigned to either a hypnosis or control group which both received the same set of guided memory instructions. Overall, the results showed that neither hypnosis nor hypnotic susceptibility facilitated correct responses for these memory tasks. High susceptibles were found to be significantly more confident about their correct responses for the slides but not the questionnaire. They were also found to report fewer Don't Knows than low susceptibles particularly when in the hypnosis condition which may be a factor of the forced choice format. No significant findings were found for incorrect responses or errors for each task. From this study, it would appear that as the memory task more closely approaches reality, hypnosis may not produce the dramatic increase in errors that have been found in some more experimental studies.

Three studies (Lytle & Lundy, 1988; Stager & Lundy, 1985; Whitehouse, Dinges, Orne, E., & Orne, M., 1988) used a 15 minute film entitled "Posters" as the memory task to examine the effect of hypnosis on both correct and/or incorrect recall. Each study compared immediate vs delayed (one week later), waking vs hypnosis, and low vs high susceptibility recall. In addition, the manner in which the recall was taken was analyzed. The various methods used were a tape-recorder interrogatory format using specific questions which contained both correct and incorrect details (Stager & Lundy, 1985), free recall



and multiple-choice questions containing a correct and 'don't know' category (Lytle & Lundy, 1988), and a forced-recall procedure in which subjects were required to answer each question even if guessing and to give a confidence rating for each response (Whitehouse, et al., 1988).

Stager & Lundy (1985) found that highly hypnotizable subjects in the hypnotic condition produced significantly more correct recall than the other groups but without a comparable increase in errors of recall. In consideration that this study did not include a pre-condition recall and that the nature of the recall format might have influenced the outcome, Lytle & Lundy (1988) repeated the study with certain modifications. They took a pre-condition recall and used a combination of free recall and multiple-choice questions which included both a correct and 'don't know' category. Although this study did not confirm Stager & Lundy's findings (1985), the results, although not significant, indicated that recall tended to increase over time and, with multiple-choice questions the correct recall increased the most for high susceptibles. In contrast, free recall tended to increase the number of errors, particularly for high susceptibles, in the hypnosis condition. A marked decrease in 'don't knows' also occurred for highly susceptible subjects.

In Whitehouse, et al. (1988), the forced-recall format was designed to ensure that subjects reported maximum recall on pre-test even though their confidence ratings might be low. It was found that there was a significant increase in correct recall for all groups regardless of susceptibility or experimental condition. The confidence ratings for correct and incorrect recall increased significantly over time with the greatest increase for errors being shown by the high susceptible group in the hypnosis condition. The confidence ratings for guesses increased overall but mainly for correct material for high susceptible subjects in the hypnosis condition. The greatest shift in confidence for errors and/or guesses occurred, however, for the hypnosis condition as more hypnotized individuals reclassified their

confidence ratings for guesses than the wake condition subjects. Overall, this study found no advantage for hypnosis for correct memory in view of the overwhelming increase in errors or shift from guesses to certainty for errors in the hypnosis condition.

To summarize, the majority of these experimental studies have failed to demonstrate that hypnosis increases accurate memory. Indeed, the more common finding is that it tends to increase errors, particularly for high susceptible subjects during hypnosis. They also reveal that hypnotized subjects become more confident about their memories whether they are correct or not. These studies further indicate the importance of the hypno-investigative procedure as the free recall procedure, commonly used in the forensic situation, leads to more errors. In addition, these studies demonstrate how unwittingly, the investigator can introduce cues, correct or incorrect, which may later appear as confident recall in hypnotic testimony.

### **Applied Studies on Hypnosis and Memory**

#### **Facial recognition**

Eyewitness identification is very important to the judicial system, consequently, the study of facial recognition and recall has been considerable (Barkowitz & Brigham, 1982). Studies have investigated the encoding, storage and retrieval of memory for faces (Ellis, 1984). It has been found that the length of delay from the initial viewing of a stranger's face has a negative effect on accurate recall (Barkowitz & Brigham, 1982). Cue saliency such as the upper and central features of the face, including hairstyle are easier to encode as are atypical or live faces (Ellis, 1984) and one's own race (Barkowitz & Brigham, 1982). It has also been observed that facial descriptions can change over time with a tendency for the faces to become more and more similar to a stereotyped impression or attitude of a specific type of individual,

for example, policeman, artist, etc. It has further been seen that new details can become incorporated into descriptions and magnified depending upon the role or attributes assigned to a face, and, that descriptions of other witnesses may influence memory (Ellis, 1984).

Recalling a face is considered to be a more difficult cognitive task than recognition as it requires imagining and then describing the face. It has been shown that individuals who are vivid visual imagers have more accurate memory for physical details as well as for social memories of the context or interactions inherent in a situation (Swann & Miller, 1982). When mental rehearsal of the initial crime is encouraged prior to verbal recall, it leads to more accurate photo lineup selection. In addition, such factors as familiarity with the face to be identified, angle or pose of the face, whether viewed in the same context or not, level of criteria for identification as instructed by experimenters and/or police (Ellis, 1984), as well as age and sex (Barkowitz & Brigham, 1982) may influence the memory of the face.

Very few studies have been conducted on the use of hypnosis to enhance facial recognition. Wagstaff (1982) found that high susceptible subjects who experienced a hypnotic induction one week following exposure to photographs of faces were no better at the correct recognition of the target face than a control, no-hypnosis group. Indeed, the hypnotized group produced more false identifications than the control group. In a study by Redston and Knox (1983), subjects in a one test trial were asked to make attributions (deep encoding) or note facial features (shallow encoding) for a slide series of faces. High susceptibles were then assigned to either a hypnosis or relaxation condition and low susceptibles to a simulated hypnosis group in order to view a series of slides which included previously encoded as well as distracter slides. The results showed that for all groups accuracy increased for the slides that had been deeply encoded (85%) and subjects were more confident about their choice. No differences were found between the groups

for the number of correct identifications indicating that hypnosis did not significantly enhance facial recognition for either the deep or shallow encoded faces.

### **Type and number of recalls**

Several studies have demonstrated that correct memory increases over time with multiple recall trials and particularly for pictures rather than words (Erdelyi & Becker, 1974; Erdelyi & Kleinbard, 1978; Payne, 1986; Thompson, Wenger & Bartling, 1978). Erdelyi and Kleinbard (1978) developed a full forced-recall procedure consisting of an initial free recall in which the subject was instructed to remember as many slides (Erdelyi & Becker, 1974) as possible, drawing a line below this list, and then continuing to remember, even if guessing, until all the predetermined spaces (same number as slides) on the recall form were completed. In this way, in subsequent recall trials, they were able to determine exactly which errors (guesses) had been replaced by correct material. They found in a later series of experiments (Erdelyi, Finks, & Feigin-Pfau, 1989) that this procedure led to more correct memories of pictures (Erdelyi & Becker stimuli) but also more errors than a strictly free recall procedure. This finding was replicated using the high and low imagery set of words developed by Roediger and Payne (1985). From these studies, they concluded that response bias, whether from the demands of the recall procedure or from the way that the subject processes instructions initially, can influence the recall performance level. They urged experimenters and practitioners to control for response bias.

In a critique of these studies, Roediger, Srinivas and Waddill (1989) argued that the full forced-recall procedure was not comparable to a real eyewitness situation where the correct responses were unknown and, therefore, one could not determine what portion of the recall was due to guessing or errors. They further argued that this procedure encouraged confabulation as subjects were required to complete the entire form while,

with free recall, subjects stopped when they had no further recollection of the stimuli. They found, in addition, that these errors tended to become confused with correct memory and were incorporated into later recalls. This was considered by the authors to be a failure in reality monitoring. They also noted that variations in recall procedures only had a minimal effect on correct recall which tended to be cumulative and, therefore, very few new correct items appeared in subsequent recall trials. They stressed that the experimental situation was unable to mimic the response biases inherent in a forensic setting such as the introduction of hypnosis, influence of drugs, and delays from the actual event to the investigative recall.

Two experiments were conducted to study the effects of response bias (hypnosis and susceptibility) and delay on recall performance (Dinges, Whitehouse, Orne, E.C., Powell, Orne, M.T., & Erdelyi, 1992). In the first experiment a baseline waking full forced-recall (Erdelyi procedure) was taken immediately following the viewing of the Erdelyi and Becker slide series (1974) and a second waking full forced-recall one week later. Subjects were then randomly assigned to one or other of a waking or hypnosis condition on the basis of their hypnotic susceptibility level. Each group had five recalls taken in their experimental condition followed by a filler/distraction task and a final waking recall for a total of eight recalls. The results indicated that on immediate recall all subjects remembered 58% of the slides correctly which dropped to 38% one week later. Although a similar pattern of recall emerged for all groups, that is, initial high recall, drop one week later and increased recall in each subsequent recall trial, the greatest recall occurred for high susceptibles in the hypnosis condition. Analysis of the total recall of the high susceptibles revealed that the cumulative high number of corrects was due to the retention (lack of forgetting) of previous recall rather than from new correct recall. Furthermore, it was found that confident errors increased over time for all subjects and particularly for highly susceptible subjects whether in

the waking or hypnosis condition. Also, it seemed that high hypnotizable subjects retained and accepted their errors as accurate in subsequent recall trials. From this the authors concluded that hypnosis did not enhance memory, tended to decrease reminiscence, and increased errors for all subjects in the hypnosis condition.

Experiment 2 was designed to assess the impact of hypnosis following a series of waking recalls. The same materials and procedures were used as in Experiment 1 except that Recalls 2 to 7 were taken as waking recalls and Recall 8 taken either in the waking or hypnosis condition. The results showed that there was a significant increment in correct recall over time and multiple recall (R 2 - 7) trials as well as a significant increase in confident errors. Upon examination of the new recall it was found that there was very little new correct recall over the multiple recall trials and this decreased even further in hypnosis. New confident errors tended to decrease over time for all but the subjects in the hypnosis condition, particularly high susceptibles, who showed a significant increase in errors. Overall, the authors concluded that hypnosis did not improve accurate memory regardless of when it was introduced (early or delayed) and, indeed, hypnosis seemed to increase the chance that errors or confabulations would be reported with confidence.

### **Simulated eyewitness situations**

In an attempt to bring the laboratory closer to the realities of the applied forensic situation, researchers have used simulated events which range in intensity for eyewitnesses from viewing videotapes or slides of a car accident (Putnam, 1979), to a bank robbery (Sheehan, Statham, Jamieson, & Ferguson, 1991), to a dramatization of a mock assassination (Timm, 1981). In Putnam's study (1979), a videotape - recording of a car-bicycle accident was used as the stimulus to investigate whether hypnotized subjects were more liable to respond to leading and/or misleading information questions. The

results indicated that even a slight change such as substituting 'the' for 'a' in a question could lead to a significant increase in errors for hypnotized subjects as did the question containing misleading information. The hypnotized subjects, regardless of a higher portion of errors, were found to be just as confident about their recall as subjects in the waking condition.

In another study, a videotape of an eight minute airport scene which included a very stressful 21 second shooting episode was shown to subjects (Sweeney, 1986). All subjects were administered the Anxiety-State Scale of the Spielberger State-Trait Anxiety Inventory prior to and following the video presentation. Subjects then responded to an open-ended and interrogatory recall format which included leading and nonleading questions followed by confidence ratings of the recalled material. In session two, 24 hours later, subjects were randomly assigned to an alert hypnotic induction, traditional hypnotic induction or nonhypnosis control group and a second recall was taken. The results showed no significant differences between the conditions for accurate or inaccurate recall, leading or misleading questions, confidence ratings or hypnotic susceptibility. Although the anxiety level decreased significantly for subjects following the hypnosis sessions, it would appear that this advantage did not enhance hypnotic recall even for a stressful event. The author speculated that these negative results may have been influenced by the absence of motivating instructions or suggested expectations for an effect from hypnosis. The actual viewing of the gunman was very short, and, as it is well known that short exposure time tends to worsen memory, this may have been a more salient factor in the results.

Sheehan (1988b) reported on a series of six experiments which used the Loftus misleading information paradigm (1978). Over a four year period, 429 subjects viewed 11 of the Loftus street robbery slides (1979) and, in the misleading condition, were given three pieces of false information about the event either prior to (Studies 1 - 3) or after hypnosis (Studies 4 - 6). In each

set of experiments high vs low susceptibles, or real vs simulating, or high vs motivated low susceptibles were compared for accurate memory, distortions of memory and distortions of confidence. The recall format involved a free initial narrative and a forced choice recognition recall in hypnosis followed by a second recognition recall in the waking state. The overall conclusions of these studies were that memory is neither enhanced nor hampered by hypnosis, that high susceptibles in hypnosis produce more errors and are more confident, that leading questions in hypnosis are more liable to cause errors, and that neither of the free recall or recognition recall procedures was particularly advantageous for memory enhancement. The finding that simulating subjects reported high levels of confidence regarding their recall led the author to conclude that a subject's expectation of hypnosis and/or the expectancy instructions given prior to hypnosis may be very influential in memory distortion.

A videotaped vignette of a bank robbery (Yuille, 1982) was used in two studies involving high, medium and low susceptible subjects in a hypnosis or waking condition to examine the occurrence of pseudomemories (Sheehan, et al., 1991). All subjects rated the robber's aggressiveness, gave a free recall of the video and then responded to eight questions in a structured recall on specific details of the video. In addition they were asked to give corresponding confidence ratings. Three false memory items were suggested several times in each experimental condition. Subjects were then dehypnotized or performed a filler task followed by a similar second recall. Analysis of the data in Study 1 indicated that high susceptible subjects had the greatest number of pseudomemories in hypnosis. In Study 2, attempts were made to decrease the pseudomemories by eliminating any instructions or cues which might imply that there would be a carry over of memories from recall 1 to recall 2. The results showed that subjects in hypnosis recalled significantly more pseudomemories but that this reporting tended to lower



rather than increase the confidence ratings for those subjects. Overall, a cross-comparison of the two studies found that high susceptible subjects in hypnosis reported the greatest number of pseudomemories for both recall procedures although it was more marked with the structured recall. Hypnotic susceptibility did not appear as a significant factor in Study 2 in terms of errors of memory. This led the authors to conclude that the hypnotic instructions or specific cueing/demand context of the structured recall triggered a posthypnosis response which led to the higher incidence of pseudomemories. They found that the less ambiguous instructions of the free recall procedure did not create as many errors.

Timm (1981) conducted an experiment which involved an unannounced mock assassination with a .22 calibre starting pistol-revolver. Following this, subjects were informed it was a mock situation and then randomly assigned to one of three conditions, that is, a forensic hypnosis, forensic interview, or control group. The hypnosis induction was modelled after Reiser's TV technique with all instructions and interviewing procedures for the free recall being given in the present tense. Following dehypnotization, the subjects completed a 38-item multiple-choice recognition questionnaire which contained a "do not recall" category for each question. Subjects were then asked to select the weapon and assailant from photos of 18 different guns and seven people. In the second group, subjects experienced the same forensic interview but without the hypnotic induction. The third group only completed the multiple-choice questionnaire which was presented in the past tense.

The most accurate recall was obtained by Group 2, the forensic interview condition, and then the hypnosis condition (Group 1), however, this was not statistically significant. Similar results were obtained for the incorrect and "do not recall" responses. The delay from the mock assassination to the time of testing ranged from 66.6 - 72.9 days which may

have seriously affected the results. No hypnotic susceptibility measures were taken or controlled for in the group allocation which might be another factor. The author stressed the importance of the 'present' or 'past' tense component of the interviews procedurally, however, did not report upon their impact on recall. He further stated that the results, although preliminary, indicated that the forensic interview itself, rather than hypnosis, may be the more important factor in obtaining accurate recall although it is not clear how he arrived at this conclusion. The answer might lie in the unreported manipulation of the verbal tense!

In a later study, Timm (1985) examined whether the number of "do not recall", correct and confident responses were influenced by hypnotic susceptibility and/or a hypnosis or waking condition. All subjects were victims of a squirt gun shooting incident and, although they had prior knowledge that the incident would occur they neither knew when or who the offender would be. Within three days following the incident all subjects reported it to a 'police investigator' who spent 30 minutes collecting a baseline description of the event and the offender. Subjects were then assigned to one of two groups where they gave a free narrative recall to an experimenter followed by four directed narrative questions focusing on the when and where of the incident as well as the physical characteristics and clothes of the offender. This was followed by 21 specific questions on the offender's appearance which were also rated for certainty on a 9 point scale and a photo lineup of 8 pictures which possibly included the offender. In the hypnosis condition, subjects were given positive statements regarding hypnosis and memory and then experienced an induction based upon Reiser's TV and age regression techniques. Subjects in the waking condition received a memory assistance orientation minus the hypnosis induction and were instructed to close their eyes and visualize the mock crime. A second waking recall was taken for both groups in the same manner. The recall was

analyzed as to the correct, incorrect and "don't know" responses.

Inadvertently a nesting problem of subject assignment arose as all the high susceptible subjects had been assigned to the hypnosis and all the low susceptibles to the waking condition making it difficult to interpret the impact of hypnotic susceptibility. It was found that subjects (low susceptibles) in the waking condition had the least number of "don't know" responses initially and these decreased further as their errors increased on subsequent recalls. Also, subjects in the hypnosis condition were more confident that their recall was correct even when erroneous than subjects in the waking condition. When the data was collapsed for the two groups, a significant correlation between confidence and hypnotic susceptibility was found with high susceptibles being more confident about their responses regardless of whether this was for the initial simulated police interview, initial experimenter interview or the memory assistance interview. Both high and low susceptible subjects were significantly more confident about their correct memories than their errors of memory.

### **Confidence and accuracy**

Eyewitness confidence is a crucial element in court room testimony (Wells & Murray, 1984) as it plays a key role in convincing the judge and jury that the testimony being given is accurate and truthful. Despite being valued so highly by the legal system there is little evidence to support a correlation between eyewitness confidence and accuracy or that it can predict accuracy. As discussed in a previous section, the opponents of using hypnosis for forensic purposes have been concerned both with the high level of confidence that clients have regarding their hypnotic testimony whether erroneous or not and how this conviction may render them impervious to cross-examination (Margolin & Coliver, 1983; Orne, M., et al., 1990).

Consequently, numerous researchers have included an assessment of a

subject's confidence (Nogrady, et al., 1985) or certainty (Timm, 1985) in their studies. Whether a three point (Nogrady, 1984; McKonkey & Kinoshita, 1988), five point (Putnam, 1979; Whitehouse, et al., 1988), six point (Sheehan, et al., 1991) or nine point (Timm, 1985) rating scale is used, the results are fairly consistent. Confidence ratings are usually taken as part of the baseline waking recall as well as for repeated recall trials whether in a hypnosis or waking condition, high or low susceptibility condition, delayed recall intervals, or for free narrative, structured or recognition recall procedures (Dinges, et al., 1992; McKonkey & Kinoshita, 1988; Nogrady, et al., 1985; Putnam, 1979; Sheehan, 1988b; Timm, 1985; etc.).

In general these studies find that confidence ratings for correct recall increase for all subjects over time and repeated trials (Dinges, et al., 1992; Nogrady, et al., 1985; Timm, 1985; Whitehouse, et al., 1988) whether in the hypnosis or waking condition. However, subjects in a hypnosis condition, particularly high susceptibles, have been found to have significantly higher levels of confidence for both correct and incorrect recall (Dinges, et al., 1992; Mingay, 1985 - 1986; Nogrady, 1984; Nogrady, et al., 1985; Putnam, 1979; Sheehan, 1988b; Timm, 1985; Whitehouse, et al., 1988). High susceptible subjects in hypnosis have also been found to be significantly more confident regarding misleading questions (Sheehan, 1988b), however, in this study simulating low susceptibles also became more confident. This finding may be related to suggested expectations for hypnosis to enhance memory. While hypnotized high susceptible subjects were found to recall significantly more pseudomemories than low susceptibles this tended to decrease their confidence ratings (Sheehan, et al., 1991). Overall, all subjects tended to report higher confidence ratings for correct material than errors (Nogrady, 1984; Timm, 1985) or peripheral detail (Mingay, 1985 - 1986). New confident errors have been shown to decrease in confidence ratings over time except for high susceptibles in a hypnosis condition ( Dinges, et al., 1992).

Only a few studies have contradicted these results by not finding any significant differences for condition or susceptibility (Salzberg & DePiano, 1980; Sweeney, 1986). A recent study by Gwynn, Quigley, Perlino, Glatt, & Spanos (1990) exposed subjects to a 65 second videotape of a mock crime involving a shooting. Following this all subjects completed a description of the assailant and viewed a photo lineup which contained a photo of the criminal for half the group and not for the other half. Confidence ratings were taken on a 0 - 6 point scale. Subjects returned the next week for either a hypnosis or waking condition experience and a repeat of the recall procedure.

One week later all subjects who had identified an offender returned for a mock courtroom experience. Half of these subjects were randomly assigned to a 'prepared' condition where they were instructed how to behave, what to say, and how to respond to cross-examination questions regarding their eyewitness testimony. All subjects were then videotaped during a standard cross - examination procedure in which the experimenter tried to shake the confidence of each witness. The results showed that prior to the courtroom experience, high susceptible subjects in the hypnosis condition had the highest confidence ratings for their testimony and that those high susceptible subjects who were both in the hypnosis and 'prepared' conditions remained confident about their recall. Indeed, all 'prepared' subjects retained their confidence ratings despite cross - examination, however, even hypnosis condition subjects in the 'nonprepared' condition were less confident about their testimony. The authors concluded that the legal 'preparation' of eyewitnesses may be more relevant to the unshakeability of eyewitness testimony than hypnosis procedures or hypnotic susceptibility *per se*.

### **Type and context of hypnotic inductions**

In general, studies regarding hypnosis and memory have used hypnotic inductions which may include some or all of the following

techniques. Eye fixation (Baker, et al., 1983), relaxation techniques (Griffiin, 1980; Kroger & Doucé, 1980; Putnam, 1979; Sweeney, 1986), motor suggestions of arm levitation, hand lowering, etc. (Baker, et al., 1983; Kroger & Doucé, 1980; Murray-Smith, et al., 1990; Timm, 1981; 1985), and age regression techniques such as picturing a calender and then mentally going back in time to the day of the event (Timm, 1981; 1985) have been widely used. Deepening techniques such as counting down, mentally taking an escalator (Kroger & Doucé, 1980), or walking down several flights of stairs (Baker, et al., 1983; Reiser, 1980) have been used to enhance the subject's depth of hypnosis.

Sometimes the hypnotic inductions have been derived from standardized hypnotic susceptibility scales such as the HGSHS: A; SHSS: A (Griffin, 1980; Putnam, 1979; Sweeney, 1986), SHSS: C (Griffin, 1980) or the Barber Suggestibility Scale (Wagstaff, 1985b). In studies where the experiment involves contrasting a traditional hypnosis induction with a non-traditional approach (for example an alert-hypnotic induction), the Group Alert Trance Scale by Vingoe has been used (Sweeney, 1986). In order to control for experimenter bias some researchers have only used standard audiotaped hypnotic inductions (Gwynn, et al., 1990; Wagstaff, 1985b).

Frequently, subjects have been given very positive precondition explanations of hypnosis and its capacity as a memory retrieval procedure to enhance memory (Gwynn, et al., 1990; Kroger & Doucé, 1980; Putnam, 1979). Once in hypnosis, similar positive information may either be introduced or reintroduced to inform subjects that they will be able to return to the time of learning or observation of the original material (Reiser, 1980; Stalnaker & Riddle, 1932; Wagstaff, 1985b) and to remember the event without anxiety (Murray-Smith, et al., 1990; Stalnaker & Riddle, 1932). Repeated suggestions are often made that subjects will be able to see and recall accurately and in detail whatever he/she witnessed (Baker, et al., 1983; Gwynn, et al., 1990; Sheehan, et al., 1991). In an experiment involving pseudomemory, Sheehan,

et al. (1991, p. 4) suggested strongly to subjects in the hypnosis group that "Everything is recorded and in hypnosis you can remember it if you try."

Subjects have been told that they will be able to see a total image from which they can select details (Putnam, 1979) or that they will be able to relive the past event including reexperiencing all the sensory input of the original situation (Gwynn, et al., 1990; Timm, 1981; 1985). Kroger and Doucé (1980) introduced what they called 'sensory-imagery conditioning' into the hypnotic induction and asked witnesses to use all five senses while recalling an event. They included sensory material in their questions inquiring as to how a witness felt at the time, had they noticed colours, smells, etc. Several studies have also given a posthypnotic suggestion that memory will continue to be enhanced in future sessions (Kroger & Doucé, 1980; Gwynn, et al., 1990).

The TV technique, as described by Reiser (1980), has often been used in its entirety or as a modified video procedure for both experimental (Baker, et al., 1983) and applied studies concerned with forensic issues. As indicated earlier, the TV (or video) technique involves imagining a TV set/videorecorder, turning it on and watching the action sequence of the original event (Sheehan, et al., 1991). Subjects are told that they can go forward, backward, freeze-frame, use slow motion, zoom-in or enlarge whatever they see on the screen (Kroger & Doucé, 1980; Putnam, 1979; Timm, 1981). Indeed, Kroger and Doucé (1980) suggested to subjects that "their own 'hidden observer' was looking through a magic lens which was projecting action sequences on a large television or motion picture screen" (p. 88). These authors further stated that "It is also emphasized that the subject will make full use of his imagination rather than his will" (p. 87). The emphasis on 'magic' certainly could imply to the subject that they are about to enter a unique and powerful memory experience in hypnosis. In addition, the emphasis on 'imagination' hardly implies a search for the 'truth' or 'accuracy' in the hypnosis situation!

Frequently, the hypnosis condition is compared with other experimental conditions such as a waking or non-hypnotic condition (Putnam, 1979), a progressive-relaxation group (Baker, et al., 1983), a forensic interview minus hypnosis (Timm, 1981; 1985), or an alert-hypnotic induction (Sweeney, 1986). Some studies have controlled for the time factor by ensuring that the hypnosis and non-hypnosis conditions are of the same length. Filler tasks like a geometric puzzle (Murray-Smith, et al., 1990), other tests or questionnaires (Putnam, 1979; Sheehan, et al., 1991), discussions on specific topics (Baker, et al., 1983), and memory assistance procedures (Timm; 1985) have been used for this purpose.

As hypnosis condition subjects have often been highly motivated to believe that hypnosis would aid recall, recent studies have attempted to control for this by giving the same motivating instructions and memory enhancing suggestions in the control condition (Murray-Smith, et al., 1990; Sheehan, et al., 1991) as well. In some experiments the very same motor suggestions and TV memory retrieval techniques have been used for all groups (Sheehan, et al., 1991; Timm, 1981; 1985). Eye closure is usually a requirement in hypnosis, therefore, studies have controlled for this by having the non-hypnosis subjects wear blackout goggles (Baker, et al., 1983) or to "close their eyes and attempt to visualize the images they saw...." (Timm, 1981, p. 191).

Many studies, however have not controlled for the time factor (Griffin, 1980; Gwynn, et al., 1990; Putnam, 1979; Stalnaker & Riddle, 1932), for the prehypnosis explanations (Gwynn, et al., 1990), or for the impact of differential motivating instructions on hypnotic recall (Stalnaker & Riddle, 1932; Griffin, 1980; Murray-Smith, et al., 1990). Often there is considerable imbalance between the hypnosis instructions, for example, "they would remember the words easily and effortlessly because they were deeply hypnotized" (Murray -Smith, et al., 1990, p. 3) vs the non-hypnosis



instructions "it was very important that they try very hard to remember as many of those words as they could" (p. 4). More commonly the difference lies in setting up high expectations for hypnosis while down playing expectations and demands in the non-hypnosis condition, as in, "write out this selection just exactly as you memorized it. Write as much of it as you can" (Stalnaker & Riddle, 1932, p. 431).

Wagstaff (1985b) conducted a series of experiments to examine the role of induction in eyewitness recall. In a non-hypnosis experiment, he asked subjects to view a non-traumatic stimulus of a card containing 20 objects for 30 seconds. One minute later, half the subjects recalled the objects with eyes-closed and half with eyes-open. The eyes-closed group remembered significantly more items indicating that this is an important element to consider when comparing hypnosis with other conditions. In a second experiment, he evaluated the role of relaxation in the hypnosis induction by comparing three groups, that is, hypnosis, relaxation and control, on the recall of 10 slides containing samples of objects which witnesses are typically asked to remember. The results indicated that neither hypnosis or relaxation techniques enhance memory, and indeed, low susceptible subjects obtained lower scores in the hypnosis condition. Wagstaff concluded from this that hypnosis does not improve memory and, perhaps due to the drowsy, relaxation component of an induction may also render the subject less attentive.

He further examined revivication procedures used in forensic situations by conducting an experiment in which all subjects watched a video of a violent crime and then were randomly assigned to a hypnosis revivication, guided memory revivication or control group for the first recall. A second recall was taken one week later. In this study, the time of day as well as the length of the experiment was controlled for. No significant differences were found for the groups on either recall, however, there was a

trend for subjects of higher susceptibility, as ascertained on Tart's Long Stanford Scale (1970), in the hypnosis condition to make more errors. The study was replicated using a different task and similar results were obtained. Wagstaff also pointed out that many other techniques which are used in forensic hypno-investigations such as sketching, reassurance of safety, describing the event in the third person, etc. may influence results. He concluded, that until all of these variables have been examined, the role of the hypnotic induction in facilitating memory is still unclear.

### **Predictors of the 'Error' Prone Individual**

At the present time, there appears to be no definitive ways to predict which individual will be 'error' prone in an eyewitness forensic investigation. Several studies, as discussed earlier, have found that highly hypnotizable individuals (HIGHS) make significantly more errors of recall in hypnosis. It has also been noted, however, that low hypnotizable subjects (LOWS) also produce more errors in certain hypnosis conditions although not as dramatically as the increase seen with high susceptible subjects (Tallant, 1984). Hypnotizability level alone cannot, therefore, be credited with the full responsibility for the increase in errors. Clearly, there may be other subject characteristics and/or elements of the hypnosis induction which may either be causal or contribute to the number of errors that a witness is liable to make.

Visual acuity, that is whether an individual can see clearly or not, or whether vision can be enhanced in hypnosis may be another factor to consider. A case report (Davison & Singleton, 1967) described how a client, hypnotized without his eyeglasses, reported spontaneously that he could see better both during and after hypnosis. Following this the client's vision was tested by an ophthalmologist both in and out of hypnosis, with and without glasses, and it was found that, overall, the client could read one line better on

an eye chart while hypnotized. Consideration must be given to the demand characteristics of this finding as the client had been in therapy with the hypnotherapist for several months. In a study conducted by Graham and Leibowitz (1972) it was found that suggestions for eye muscle relaxation improved visual acuity during and in post-hypnosis sessions particularly for highly myopic (near sighted) individuals. In addition, they found that high susceptible subjects, but not lows, were able to improve visual acuity by practising eye muscle relaxation even when not hypnotized. The authors concluded that the relaxation element was the most important factor for the visual improvement.

Two recent studies have examined the effect of hypnotic suggestions on improving visual acuity in myopic individuals. In the first study (Pichette & Lacroix, 1990), visual acuity was measured on a Snellen eye chart in a baseline session and then compared with the score obtained in a standard hypnosis session and, secondly, with a hypnosis induction which included specific suggestions for visual acuity. The results indicated that regardless of hypnotic susceptibility (High or Low), visual acuity improved from baseline to the hypnosis condition. As the sample was small and the severity of the myopia had not been considered, a second study (Pichette, 1993) was conducted. The three conditions and levels of hypnotic susceptibility were replicated but the measurement of visual acuity was obtained by taking contrast sensitivity thresholds for six categories of spatial frequencies in each of the three test conditions. The results indicated that there was significant improvement in visual acuity from baseline to the hypnosis condition. Once again, no advantage was seen for the specific suggestions in hypnosis vs the more standard hypnosis induction and no significant relationship was found between hypnotic susceptibility scores and improved visual acuity in hypnosis. In addition, no significant relationship occurred between severity of myopia and the test condition. Future research will need to control for the

impact of relaxation in the hypnosis inductions and to determine whether the reported improvement in visual acuity is of clinical and lasting significance.

Aside from visual acuity, an individual's capacity for visual memory may be another variable which influences correct or incorrect recall. To my knowledge, no examination of the relationship between visual acuity, visual memory and hypno-investigative procedures and hypnotic recall has been made.

'Absorption' has long been identified as a trait related to hypnotic susceptibility (Tellegen & Atkinson, 1974). More recent studies have confirmed this finding using the Tellegen and Atkinson Absorption Scale (TAS) (Finke & MacDonald, 1978; Nadon, 1983; Tallant, 1986) and the Swanson Scale (Finke & MacDonald, 1978). In a preliminary report, Tallant (1986) found no significant relationship between 'absorption' and new errors of memory in hypnosis. A series of experiments (Button, Blatt, Lamarche, Perry, Nadon, & Laurence, 1993) further examined the relationship between 'absorption' scores on the TAS and recall. It was found that subjects with high scores on the TAS were more productive in the pre-hypnosis recalls than those with lower scores. These subjects (high TAS) also recalled more correct and attributional information in the hypnosis and posthypnosis recalls although these findings did not extend to errors of recall.

Hypnosis-like phenomena such as altered perceptual and volitional experiences have been found to correlate with susceptibility level when assessed on the Personal Experiences Questionnaire: Form CA - 79 (PEQ - CA 79) (Shor, Orne, & O'Connell, 1962; Tallant, 1986). The Phenomenology of Consciousness Inventory (PCI) by Pekala (1982) was used to investigate the effects of a hypnotic induction on subjects who had been classified as high, medium or low susceptibles as well as classified as high, medium, and low 'absorption' based upon TAS scores (Kumar & Pekala, 1988). The results

indicated that high 'absorption' subjects had more altered perceptual and volitional experiences in hypnosis than did lows. Also, both high and medium susceptibles in hypnosis reported a significant increase in absorption, alterations in body image, time sense, and a decrease in rationality, volitional control and memory as compared to low susceptible subjects. A preliminary report by Tallant (1986) found no significant relationship between the PEQ and new errors of memory. It would appear from these studies that individual characteristics alone are insufficient to explain what occurs in the hypnotic situation.

Imagery and fantasy have been found to be related to hypnotic susceptibility with poor imagery being indicative of low susceptibility although high vivid imagery was not necessarily related to high susceptibility (Sutcliffe, Perry & Sheehan, 1970). This finding has been replicated by Perry (1973). Nadon (1985) found that the TAS and the Preference for an Imagic Cognitive Style Questionnaire (PICS) (Isaacs, 1982) were able to correctly classify the hypnotic susceptibility level for 60% of the subjects in the study. However, in a preliminary report (Tallant, 1986) no significant relationship was found between the PICS and hypnotic susceptibility or between scores on the PICS and new errors of memory in hypnosis.

In a study examining imagery and hypermnesia in hypnosis (Dwyan, 1988), the results indicated that when subjects were grouped according to hypnotic susceptibility the high susceptible subjects produced more errors of recall. Similar results were found when the subjects were divided according to imagery scores on the Vividness of Visual Imagery Questionnaire (VVIQ) (Marks, 1973). In a second experiment it was found that imagery ability and hypnotic susceptibility interacted even in the waking condition so that low visual imagers and high susceptibles were most prone to making errors. In hypnosis, however, it was observed that hypnotic ability was the main factor contributing to increased errors.

When the PICS was examined further in relation to hypnosis and memory (Button, et al., 1993), it was found that prior to hypnosis high PICS scorers recalled fewer correct items from a videoclip of an enacted bank robbery, but in hypnosis, both high and low PICS scorers recalled more correct information. In addition, high PICS subjects also made fewer cumulative errors than lows before hypnosis but both highs and lows made more errors in hypnosis particularly for attributional and peripheral data.

In a series of experiments involving a visual memory discrimination task (Crawford & Allen, 1983), high susceptibles consistently showed significant memory enhancement during hypnosis. An analysis of the cognitive strategies that subjects used to aid their recall revealed that prior to hypnosis both high and low hypnotizable subjects tended to use a detail strategy, that is, they tried to notice and memorize specific details of the task. However, during hypnosis, the high susceptibles tended to shift to a holistic strategy, which meant they examined the whole picture at once and tried to form a mental image of it. This latter strategy appears to have led to more correct memories of the stimuli. As the incorrect memories were not analyzed we do not know how the holistic strategy might have influenced errors of memory in hypnosis or whether it might have affected the recall of subjects with varying capacities of visual imagery or hypnotic susceptibility.

To date, although numerous subject characteristics have been investigated either singly or in small combinations in relation to hypnotic susceptibility, little research has been conducted to consider the role of multiple factors as a means of predicting the 'error' prone individual in the hypnotic context.

### **Purpose of the present study**

Hypnosis is still being utilized as a procedure to enhance eyewitness testimony. In many cases this means that it is used without following the

recommended safeguards and without informing the court and respective legal parties. The most common hypnotic induction employed by police investigators is based upon Reiser's (1980) hypno-investigative technique. The role of the eyewitness, in both providing evidence and convincing the judge and jury that such evidence is accurate, can be extremely important to a verdict. Such evidence may be a deciding factor in determining whether or not a suspect is found guilty. Numerous studies, both experimental and applied, have raised serious concerns about hypnosis and memory. It seems worthwhile, therefore, to examine procedures commonly used in forensic circles and their effect on eyewitness recall more closely.

The purpose of the present study was to determine the degree to which a specific hypnotic context could facilitate eyewitness recall and to evaluate the type of memories obtained. To that end, subjects of all levels of hypnotic susceptibility observed a visual memory task and then participated in a forensic investigation process. The process involved four memory recalls of which one was taken in a hypno-investigative context. The secondary purpose of the study was to attempt to predict the 'error' prone individual, that is, the individual most liable to make errors in the hypnotic context. For practical purposes, knowing the criteria by which one could predict such an individual might markedly influence the type of investigative procedures used with eyewitnesses. The variables of visual acuity, performance scores on the measures of absorption, hypnosis-like experiences, style of thinking, visual retention, hypnotic susceptibility, and the hypnotic procedure itself were selected as possible predictors of the 'error' prone individual, either individually, or in combination with each other.

## METHOD

### **Subjects**

Fifty- two (27 females, 25 males) university students aged between 17 and 49 ( $M = 22.1$ ,  $SD = 4.91$ ) participated in the study. The majority of the subjects were students in Psychology at Concordia University and had been screened for hypnotic susceptibility several months earlier in an undergraduate psychology research methods course.

They were assigned randomly by sex and susceptibility level to one of the two experimental induction groups, the Standard Induction or the Reiser Induction; these are described in a later section. For purposes of this study, the cut-off scores for the Harvard Group Scale of Hypnotic Susceptibility: Form A (HGSHS:A) were the passing of 10 or more items, including amnesia for the high susceptibles, three to ten (3 - 10) items for the medium susceptibles, and zero to two (0-2) items for the low susceptibles. One female subject was unable to complete the experiment within the specified time requirements and one male subject withdrew for unspecified reasons. Therefore, the final number of subjects in the study was 50 with 27 subjects remaining in the Standard Induction group and 23 in the Reiser Induction group. The Experimenter ( $E_1$ ) (B.T.) was blind as to the subject's susceptibility level.

For the statistical analyses, the final determinations of high, medium and low susceptibility for subjects within each experimental condition, were made on the basis of the subject's performance on the second hypnotic susceptibility scale, the Modified Version of the Stanford Hypnotic Susceptibility Scale: Form C (SHSS:C (Mod.)). The cut-off criteria for the susceptibility levels were the passing of seven to nine (7 - 9) items, plus



amnesia for the high susceptibles, three to seven (3 - 7) items for the medium susceptibles, and zero to two (0 - 2) items for the low susceptibles. Therefore, the final determination of subjects for the Standard Induction group (n=27) was 10 subjects who were high (6f,4m); 9 who were medium (5f,4m) and 8 who were low (4f,4m) susceptibles. In the Reiser Induction group (n=23), the final determination was 8 subjects who were high (4f,4m), 7 who were medium (3f,4m) and 8 who were low (4f,4m) susceptibles.

### **Procedure**

In addition to the screening session, each subject then underwent three Experimental Sessions conducted over a two week period. Figure 1 illustrates the Experimental Procedure, indicating at which point the subjects received the various aspects of the experimental protocol.

#### **Screening Session**

Initially all subjects were tested on the Harvard Group Scale of Hypnotic Susceptibility: Form A (HGSHS: A) (Shor & Orne, E.C., 1962) in a group of 10 - 15 students. They then completed the Tellegen and Atkinson's 'Absorption Scale' (TAS) (Tellegen & Atkinson, 1974) and the shortened version of the Personal Experiences Questionnaire: Form CA-79 (PEQ) (Evans, 1982). Subjects's were asked to indicate, in writing, on the HGSHS: A form whether or not they would be willing to participate in future research studies in the hypnosis laboratory.

#### **Subject Assignment to Experimental Condition**

Several months later a research assistant selected subjects, who had indicated an interest in additional participation, and assigned them randomly to one of the two experimental conditions, that is, the Standard Induction Condition and the Reiser Induction Condition. The random assignment to the experimental conditions was based upon sex and susceptibility level, as determined on the HGSHS: A using the previously described criteria.

**EXPERIMENTAL PROCEDURE**

<b>SCREENING SESSION</b>	<b>HGSHS: A</b> <b>TAS</b> <b>PEQ</b>
<b>SESSION I</b>	<b>CONSENT FORM</b> <b>VISUAL HISTORY</b> <b>VISUAL ACUITY TEST</b> <b>LOFTUS SLIDES</b> <b>RECALL 1</b>
<b>SESSION II</b>	<b>RECALL 2</b> <b>EXPERIMENTAL INDUCTION</b> <b>- Standard &amp; Recall 3</b> <b>OR</b> <b>-Reiser &amp; Recall 3</b> <b>DEPTH OF HYPNOSIS</b> <b>QUESTIONNAIRE</b> <b>E A T</b>
<b>SESSION III</b>	<b>RECALL 4</b> <b>SHSS: C (MODIFIED)</b> <b>REVISED BENTON VISUAL</b> <b>RETENTION TEST</b> <b>PICS</b> <b>PAYMENT</b>

**Figure 1: Experimental procedure for eyewitness recall study**

Lists of names were given to the Experimenter ( $E_1$ ) (BT), who was blind to their susceptibility level; she then contacted them by telephone in the listed order. The  $E_1$  explained the overall procedures of the study to the potential subject, the time commitment involved (three, two-hour sessions over a period of two weeks) and the form of payment, that is, \$10.00 per session receivable in cash at the end of the final session as one payment of \$30.00 Cdn. Subjects were then told that in the event of withdrawal, she/he would be paid for the number of sessions completed. The  $E_1$  then scheduled an appointment for the first session.

### Session I

In Session I, the  $E_1$  described the experiment as an eyewitness study in which the subject would view a series of slides and then be asked to recall what she/he had seen. In addition, the subjects were asked to complete questionnaires. The time commitment for the experiment and the form of payment were reexplained.

The Consent Form (see Appendix A) was reviewed with each subject; all questions were answered, following which the subject signed the form. There were no withdrawals from the study at this point.  $E_1$  took each subject's visual history (see Appendix B). Definitions of the various visual problems are presented in Appendix C. The Visual Acuity Test was conducted by the  $E_1$  in the hallway of the hypnosis laboratory using a standard Snellen eye chart (Chart No. MC-200L). The conventional eye test procedures (Glasspool, 1982) were followed, that is, the subject stood six metres (19.7 feet) from the chart (indicated by a tape on the floor), covered the right eye with a file card and read the chart from the top downward. The procedure was repeated for the left eye. The subject then read the chart with both eyes uncovered. In the case of a subject who used visual aids, the test was conducted both with and without the aids. All subjects were encouraged to do their best on each occasion. Subjects, who made visual errors at the 20/25

or 20/20 level, were considered to have average vision. Those subjects who made errors before the 20/25 level were considered to have below average vision while subjects who made errors below the 20/20 level were considered to have above average vision.

The subject then viewed a slide series devised by Loftus (1979) of an apparent street robbery. The series of 24 slides were projected from a Kodak Ektagraphic slide projector Model AF-2 set to automatically focus and appear every five seconds. The slides were projected onto a white screen 180 cm. wide x 150 cm. high (70 in. wide x 64 in. high) located on a wall 2.93 metres (9 ft., 7 in.) from the subject in a dark room. The slides show a woman walking down the street carrying a parcel and purse looking into store windows. A man approaches and bumps into her, and, while helping to pick up her parcels, takes her wallet from her purse. He places the wallet inside the front of his jacket. The two continue walking down the street in opposite directions. Two women approach the victim, who then looks into her purse. The women stand and look in the direction that the suspect took.

Prior to viewing the slides, subjects were informed that they would be observing a series of slides, and to pay close attention to them as they would be expected to recall what they had seen. After viewing the slides, the lights were turned back on and the subject was immediately asked to give his/her first recall (**Recall Trial 1**).

### **Recall Procedure**

The recall session was structured to mimic the field setting of an eyewitness interrogation between a police officer/detective and an eyewitness as closely as possible. The eyewitness recall procedure was conducted in a systematic manner with the E<sub>1</sub> asking the subject to freely recall what he/she had seen in the slides. The subject was asked to state his or her degree of confidence for each piece of information reported during the entire recall session. The criteria for the confidence rating was explained by the E<sub>1</sub>, that is,

that on a range from one to five, one meant guessing, two, three and four were intermediate levels, and five meant absolutely certain. The E<sub>1</sub> only interrupted the free recall to request confidence ratings ("How sure are you of that?") if the subject did not provide them spontaneously.

Each subject was then systematically asked for the following information, that is, the time of day the incident occurred, what actually happened, where the incident occurred, any landmarks that might give information about the suspect, where the suspect went after the incident, a description of the stolen object and anything else the subject felt might be relevant to the incident.

Following this, the subject was asked to describe the suspect's appearance in some detail. If he/she omitted certain aspects, the E<sub>1</sub> would request the information by means of routine questions such as "What was the suspect wearing?", "Was he/she wearing anything on his/her feet? hands?", "Were there any special things you might have noticed about the suspect, like wearing glasses, carrying a parcel, weapon, etc.?" The subject was next asked to describe the suspect's face. He or she was routinely asked to describe the hairstyle, and whether or not there was any facial hair or special markings on the face.

The subjects were reminded that they had seen the suspect from different viewpoints and asked if they could recall any additional information from the front, side or back view. Two standard subjective police questions were asked, that is, "What sort of a person does the suspect look like?" and "Where do you think the suspect might be found?" The subject was then asked "Were there any other witnesses to the incident?" and to briefly describe them in terms of age, height and clothing. Finally, the subject was asked to report anything else that she/he could recall.

In summary, the E<sub>1</sub>, in seeking to mimic a police eyewitness interrogation, routinely attempted to find out what the incident was, how it

occurred, its location, where the suspect went, what was stolen, what the suspect looked like in terms of physical appearance, clothing, facial features, what sort of a person he might be, where he might normally be located, and, if there were any other witnesses, what they looked like.

Each piece of information provided by the subject was treated as if it were correct by the E<sub>1</sub> who might pursue it for further clarification. For example, if the subject said the suspect was wearing "running shoes - sneakers", the E<sub>1</sub> would then ask the subject "What kind of sneakers?" even though she knew the suspect was wearing different footwear. If the subject said the suspect had a facial scar, the E<sub>1</sub> would ask for a further description of it, the size, location, etc. even though she knew there were no facial markings on the suspect (see transcripts of sample recalls in Appendices D and E).

The E<sub>1</sub> used a specially prepared Eyewitness Recall and Confidence Rating Form (see Appendix F) to record a subject's recall and confidence ratings as she/he spoke. In addition, **Recall Trials 1, 2 and 4** were audiotaped on SONY LNX 90 tapes.

Session I was concluded by setting up the appointment for Session II, five - seven (5 - 7) days later.

### **Session II**

The Experimenter repeated the instructions for the confidence ratings and then asked the subjects to recall what they had seen in the slides the previous week. **Recall Trial 2** was conducted in the same manner as **Recall Trial 1**.

The subject was then asked to sit back and relax in the Lazy Boy chair in preparation for the experimental induction, that is, either the Reiser or the Standard Induction Technique. **Recall Trial 3** was conducted while the subject was in hypnosis in a similar manner to that previously described. **Recall Trial 3** was recorded along with the experimental induction, by means of a SONY VIDEOCAMERA Model AVC -3250-DX, on SONY VIDEO TAPE -V-

32 tapes for Helical Scan Video Tape Recorders.

### Experimental Inductions

While both of the experimental inductions included general suggestions for relaxation and more specific suggestions for items such as awareness of the right hand, arm levitation, and arm rigidity, the overall tone and wording used were different.

The hypno-investigative procedure, the Reiser Induction Condition (see Appendix G), was modelled after Reiser (1980) and likened memory to a static store of veridical knowledge and as akin to a videotaped record of previously perceived events which could be retrieved by hypnosis. The subject was asked to enter a memory room, watch the videotape, zoom-in on the incident and aspects of the suspect, and, finally, to review the videotape in slow motion. The subject was given the posthypnotic suggestion that she/he "will be able to remember further details more clearly". The tone of the Reiser Induction was direct and authoritative utilizing such words or statements as "you can feel the heat", "it will now begin", "will become a fist", "You open", "You see", "You will be able to remember", etc.

In the Standard Induction Condition (see Appendix H), it was suggested that hypnosis may or may not enhance memory, and that the  $E_1$  had no preconceptions as to what effect it would have for the subject. The subject was asked to recall the slides in general and the suspect's face and appearance. She/he was then given the posthypnotic suggestion that "once out of hypnosis you may find that you are able to recall more details of the incident." The tone of the Standard Induction was permissive and comfortable, positive suggestions were presented to indicate that a subject might or might not experience them. Words and statements such as "probably", "you may find", "may begin to feel", "may even seem", and "could possibly feel", etc. are examples of this approach.

Upon completion of the experimental induction, the  $E_1$  made a

subjective rating of the subject's hypnotic susceptibility level, that is, high, medium or low. The subject was then asked to verbally rate his or her depth of hypnosis for each of the specific suggestions in the induction on a rating scale from 1 - 10, where 1 equals no effect and 10 equals deeply hypnotized. In addition, the subject was asked to provide a rating for his/her overall depth of hypnosis during the induction. The  $E_1$  recorded the subject's ratings on the Depth of Hypnosis Questionnaire (see Appendix I).

### Experiential Analysis Technique (EAT)

The EAT was developed by Sheehan, McConkey, & Cross (1978) as a procedure of inquiry to assess the unique meanings, feelings and responses of an individual to the suggestions that they received in the hypnosis session. The procedure involves an independent experimenter reviewing and discussing the videotape of each subject's hypnosis session. The interviewer listens, paraphrases and encourages the subject to actively describe his or her subjective experience of each hypnotic item. Areas of inquiry usually encompass the subject's cognitions, images, expectations, perceptions, associations and feelings (Sheehan & McConkey, 1982, p. 85).

Immediately following the experimental induction, the EAT was conducted and audiotaped by a second Experimenter ( $E_2$ ), Dr. C. Perry (C.P.). The  $E_2$  explained to the subject that he would play back the videotape of the hypnosis session, stopping at certain segments in order to ask the subject to describe his/her experiences and feelings at the time. He instructed subjects to feel free to ask him to stop the videotape at any time to discuss whatever interested them on the tape. He then asked each subject several general questions regarding the experimental induction and how it compared with their hypnosis experience with the HGSHS: A. The  $E_2$  started the video on "fast forward", stopping it at predetermined items. He asked approximately 10 routine questions (see Appendix J) about the subject's experience(s) in the experimental induction and responded to any spontaneous comments or



questions that arose from the subject.

Upon completion of the EAT, the E<sub>1</sub> (B.T.) returned and the appointment for Session III was made for five - seven (5 - 7) days later.

### Session III

Recall Trial 4 was conducted by E<sub>1</sub> in the same manner as in the previous recall trials. The subject then participated in another hypnosis session, in which a modified version of the Stanford Hypnotic Susceptibility Scale: Form C (SHSS: C) (Weitzenhoffer & Hilgard, 1962) was administered. This modified scale (SHSS: C (Mod.)) consists of six hypnotic items from the SHSS: C plus a glove analgesia and a modified "hidden observer" item (Laurence, 1983) as well as specific posthypnotic suggestions. The subject's responses were scored in the Scoring Booklet: SHSS: C (Mod.). This induction was also videotaped.

Following the induction, the Revised Benton Visual Retention Test (Fourth Edition) (Benton, 1974) and the Preference for an Imagic Cognitive Style Test (PICS) (Isaacs, 1982) were administered using the standard administration procedure for each of them.

### Payment and Termination of Study

The E<sub>1</sub> held a brief debriefing with the subject regarding his or her overall reactions to the study. The subjects then received payment for their participation (\$30.00 Cdn.)

### Materials

Subjects were assessed on two hypnotic susceptibility scales, three measures of absorption and imagic preference, one measure of visual retention, and a self-reported measure of hypnotic depth.

Harvard Group Scale of Hypnotic Susceptibility : Form A (HGSHS:A)  
(Shor & Orne, E.C., 1962).

The HGSHS: A which was designed as a standard procedure for an

initial estimate of susceptibility to hypnosis in a group context. The procedure consists of listening to an audiotaped explanation of hypnosis and a relaxation induction followed by a series of 11 suggestions which include motor, challenge, and cognitive items. A suggestion requiring a motoric response is to ask the subject to extend the left arm, straight out, and to imagine it to become heavier and heavier as though a weight were pulling the hand and arm down. A challenge item involves a motor response which is then challenged by the experimenter. For example, on one item of the HGSHS: A subjects are told to think how hard it would be to shake their heads to indicate "no" and, then, to try and shake it. Cognitive items, involve such suggestions as imagining a fly buzzing around the subject's head, or a posthypnotic suggestion to forget what occurred during the session until a cue is given to remove amnesia. The items become progressively more difficult as the subjects move through the procedure from ideomotor to cognitive items.

The entire scale takes approximately 45 minutes following which the subjects report on their hypnotic experience in a standardized test booklet by answering one free recall question (on amnesia) and 11 forced choice questions which correspond to each of the other suggestions. Each multiple choice question provides a description of what the subject was asked to do during the hypnosis procedure, followed by two statements pertaining to whether or not the subject felt she/he had responded to the suggestion. Scores, for each subject, are derived by summing the number of "Yes" choices. An additional point is given if the subject passes the free recall amnesia item; here the subject is required to write down everything that she/he can remember since the beginning of the hypnosis induction. Subject's scores range from 0 - 12. Standardization of this scale has been established (Laurence & Perry, 1982; Shor & Orne, E. C., 1962).

**Modified Version of the Stanford Hypnotic Susceptibility Scale: Form C (SHSS: C (Mod.))**

The SHSS: C of Weitzenhoffer & Hilgard, (1962) was developed to assess hypnotic susceptibility in adult subjects. It includes an eye closure relaxation induction as well as 12 distinct items to assess hypnotic response. Like the HGSHS: A, it consists of ideomotor, challenge and cognitive items, with a preponderance of the latter. The items are presented in ascending order of difficulty. The test is reliable in terms of the Kuder-Richardson Formula ( $r = .85$ ) and correlates highly with the Stanford Hypnotic Susceptibility Scale: Form A (SHSS: A) ( $r = .72$ ) (Hilgard, E.R., 1978-1979). Its correlation with the HGSHS: A, however, is  $r = .59$  (Bowers, 1976) which constitutes a primary reason for not relying upon the HGSHS: A as a sole measure of hypnotic susceptibility. Notwithstanding, the SHSS: C is considered by many to be the best instrument available for assessing an individual's responsiveness to hypnosis in the laboratory setting (Sheehan & McConkey, 1982). This is because the preponderance of difficult cognitive items gives it more "top", thus permitting finer distinctions among the more highly hypnotizable subjects.

On occasions, experimenters have modified the SHSS: C in order to delete items not necessary to an experiment or to include new items. These may either be alternates of the original items or completely new items which the experimenter wants to investigate. In a study conducted by Hilgard, E. R., Crawford, Bowers, P., and Kihlstrom (1979), it was found that some of the items could be replaced without disturbing the usefulness of the established norms of the original scale.

The modified version of the SHSS: C used in this experiment [SHSS: C (Mod.)] (see induction in Appendix K) consisted of six of the original items of the scale, that is, hand lowering (right hand), moving hands apart, mosquito hallucination, arm rigidity (right arm), age regression and posthypnotic

amnesia. These items were scored as pass or fail according to the standard criteria. Other items such as the taste hallucination, dream, arm immobility (left arm), anosmia to ammonia, hallucinated voice and negative visual hallucination (3 boxes) were omitted.

These deleted items were replaced by three additional items which have been used extensively in the hypnosis laboratory at Concordia University. These are the glove analgesia, hidden observer, and specific posthypnotic suggestion items. The specific instructions and procedures related to each of these items are also provided in Appendix K. All nine items were scored as a pass or fail according to specific criteria in the Scoring Booklet and a post-experimental inquiry regarding the glove analgesia, hidden observer and age regression items was conducted (see Appendix L). The entire scale took approximately 45 minutes to complete. The subject's score could range from zero to nine (0 - 9).

The hypnotizability classification of a subject based upon the HGSHS: A may alter once the more "difficult" SHSS: C is administered (Register & Kihlstrom, 1986). Therefore, the final determinations of high, medium and low susceptibility for the subjects within each experimental condition, that is both the Standard or Reiser Induction group, were made on the basis of the subject's performance on the modified SHSS: C. as previously described.

**Tellegen Absorption Scale (TAS) (Tellegen & Atkinson, 1974).**

This scale (see Appendix M), was developed to assess an individual's capacity for reality and fantasy absorption, dissociation, and openness to new experiences. The scale consists of 34 true-false items representing intensified appreciation of daily living experiences, involvement in fantasy and other self-altering and/or absorbing events. Examples are "I can be deeply moved by a sunset."; "If I wish, I can imagine (or daydream) some things so vividly that they hold my attention as a good movie or story does.", and "It is sometimes possible for me to be completely immersed in nature or in art and

to feel as if my whole state of consciousness has somehow been temporarily altered." The subject's score is derived by counting the "true" responses with scores ranging from 0 to 34. This scale has been positively correlated with hypnotic susceptibility and hypnotic depth. Subsequent studies have found the Absorption Scale to have an internal consistency coefficient of 0.89 (Finke & Macdonald, 1978).

**Personal Experiences Questionnaire: Form CA - 79 (PEQ : CA 79)**

The shortened version of the Personal Experiences Questionnaire (PEQ) of Shor, Orne, and O'Connell (1962) was adapted by Evans (1982). It was completed by all subjects (see Appendix N). This questionnaire indicates the incidence of hypnotic-like occurrences such as absorption and heightened perceptual experiences which the subject has encountered outside of the hypnotic context. It consists of 18 items which the subject answers by a Yes or No statement. The total score is determined by summing the Yes responses. The range can, therefore, be from 0 - 18.

The intensity scores for 45 PEQ items, on the original scale, were found, in a cross-validation study, to be highly reliable ( $r = .95$ ). It also correlated significantly with susceptibility level ( $r = .46$ ), as ascertained on the Stanford Hypnotic Susceptibility Scale (Weitzenhoffer & Hilgard, 1959), and an Overall Rating of Depth, particularly in the deeper region of the hypnotizability continuum ( $r = .84$ ) (Shor, et al., 1962). No reliability data have been reported on the shorter version (Nadon, 1983); however, it has been used extensively in previous studies in the Hypnosis Laboratory at Concordia University as well as by other researchers in the field.

**Preference for an Imagic Cognitive Style Questionnaire (PICS) (Isaacs, 1982).**

This scale (see Appendix O) was designed to assess an individual's preferred thinking style. Subjects are given information to read to help them to distinguish between an imagic, verbal, or mixed mode of thinking. In

addition, they are given information to help them rate the clarity or vividness of their mental images and the degree to which they become absorbed or involved in their thinking. The cognitive styles are presented as equally desirable and the administration instructions are designed to encourage the subject to deploy his/her usual mode of thinking.

Once the subject has read the material, the Experimenter asks the subject to "think about" three separate situations. The first, an EMOTIONAL EXPERIENCE, asks the subject to think about a personal and private experience which has had a strong, positive, emotional impact on them. The subject is asked to close his/her eyes and is given two minutes to think. Secondly, the subject is asked to think about an early morning walk in a MEADOW, and, finally, to look at a PICTURE for 15 seconds of a rocky coastline seen from the perspective of a person standing on a ship. The subject closes his/her eyes "to think" for one minute after each of these latter tasks.

After each situation, the subject answers four forced-choice questions on aspects of their thinking style, one for each subscale (Verbal, Imagery, Absorption and Effort). The choices range from "no" to "vague" to "fairly" to "quite" to "so clear that it was almost real". Four questions regarding the intensity of feelings associated with the EMOTIONAL EXPERIENCE are asked but are not included in the computation of the PICS Score. The final PICS Score is derived from summing the Imagery and Absorption scores and then, subtracting the sum of the Verbal and Effort scores [  $(I + A) - (V + E) = \text{PICS Score}$  ]. The range of the score can be from -22 to +24 (see Appendix O for the instructions and the scoring system). Currently, no normative data exist for the PICS, however, it has been used in several hypnosis experiments both in the Concordia University Hypnosis Laboratory and others.

**Revised Visual Retention Test (Benton, 1974).**

This test was designed to assess visual perception, visual memory and

visuoconstructive abilities (Benton, 1974). There are three alternate forms and four possible administrations of the test. Administration B (5 second exposure followed by immediate reproduction) and Form E, which consists of ten designs containing one or more figures, were used in this study.

The subject was given a booklet of blank sheets of paper the same size as the design cards (14 x 22 cm.; 5 1/2 x 8 1/2 in.), and a pencil and eraser. The subject was told that she/he would be shown a card, on which there were one or more figures, for five seconds. Once the card was removed, the subject was to immediately draw what she/he had just seen. Timing was regulated by means of a watch with a second hand. The design book was placed at a 60 degree angle to the table for optimal viewing. Each card was then presented, without comment, until Design III (first card to include two major and a peripheral minor figure) when the Examiner said, "Do not forget to draw everything you see." If the subject omitted the peripheral figure, the same instructions were given prior to showing Design IV. The subject was permitted to make erasures or corrections. No praise was given by the  $E_1$  during the test which took approximately five minutes to administer.

Explicit objective instructions (p.5 - 10) for scoring this test as well as samples of correct and incorrect reproductions (p. 32-41 for Form E) are clearly described in the manual which accompanies the Revised Visual Retention Test. The Number of Correct Reproductions and the Number of Errors provide a measure of general efficiency performance. In addition, the Errors have been classified according to type, that is, omissions, distortions, perseverations, rotations, misplacements and size. This permits an analysis of the qualitative characteristics of a subject's performance. Correct reproductions are scored on an all or none basis, that is, 1 or 0. For each form, the range is 0 - 10. An incorrect reproduction can have several errors so that there is no absolute limit to the number of errors a subject may have. The upper range, however, is usually 24 errors. There is good interscorer

agreement for total scores ( $r = .95$ ) and satisfactory agreement ( $r = .75 - .98$ ) for the major categories of errors.

Normative data have found the correct reproductions of subjects on the Revised Visual Retention Test to be positively correlated with intelligence ( $r = .70$ ) and with chronological age (older subjects make more errors). There are no significant differences due to sex. The expected scores for Administration B are approximately one point below the norm for the Number of Correct Scores on Administration A (10 second exposure with immediate recall). A score three points above the expected errors may raise concerns regarding impaired cognitive function, four suggests impairment, and five or more is a strong indicator.

The majority ( $N = 50$ ) of subjects in this study were between 15 - 44 years of age. As all the subjects were university students, their estimated intelligence quotient (IQ) could be considered to be average (95 - 109) or superior (110 and above). For purposes of this study, therefore, the Number of Correct Scores was expected to be seven or eight (7 or 8).

Reliability between the different forms (Form C vs D; C vs E; D vs E) of the Revised Visual Retention Test is satisfactory with correlation coefficients ranging from .79 to .84 (Benton, 1974). Validity has been confirmed in several clinical and experimental studies (Wellman, 1987). The test correlates positively with other measures of visual perception and memory, such as, the Porteus Maze Test [ $r = .57$ ] (Sterne, 1969), three subtests of the WAIS (Block Design, Digit Symbol, & Object Assembly) ( $r$  ranged from .46 to .62), and Rey's Complex Figure Test and the Wechsler - Bellevue Scale (Crochelet, 1970).

#### Depth of Hypnosis Questionnaire

Obtaining a retrospective depth report for each of the specific items in an experimental induction is a well-established practice in the hypnosis laboratory at Concordia University. The procedures, described by Perry and



Laurence (1980) (see Appendix I), for obtaining and recording the subjective rating of a subject's depth of hypnosis during each of the experimental conditions of the study was adopted.

Upon completion of the experimental induction, the subject was asked to verbally rate his or her depth of hypnosis for each of the specific suggestions in the induction. A rating scale, from **one** to **ten**, where **one** meant **no effect** and **10** meant **deeply hypnotized** was used. In addition, the subject was asked to give a rating for his/her overall depth of hypnosis during the induction. Subjects in the Reiser Experimental Induction group made nine ratings while those in the Standard Experimental Induction made eight to correspond with the suggested items in each induction.

#### **Development of the "Correct" Description of the Suspect**

Five graduate students (raters) from the psychology department viewed the 24 Loftus slide series under the same conditions as for the experiment. Immediately following, the raters wrote down their recall of the slides on a prepared form (see Appendix P). The  $E_1$  then showed the slides a second time at a much slower pace. The raters were asked to note certain aspects of the suspect's appearance in specific slides (Slides # 5, 8, 10, 11, 12, 15, 16, 18, and 19) which showed the suspect more clearly or from specific viewpoints, for example, the facial, the side, or back view. The raters discussed each item on the form, and, arrived at a group consensus of the suspect's appearance. All of the slides were viewed a third time and, the description, judged to be "correct" by the five raters was finalized (see Appendix Q).

#### **Scoring Protocol**

Although peripheral detail like the physical surroundings, trees, buildings, appearance of other witnesses, etc. and attributional information such as "he looked like a person who would hang out in a bar", etc. were

obtained during the recall process, material of this nature was not included in the scoring of the eyewitness testimony. For purposes of this study, the analysis of the eyewitness recall was restricted to the physical details of the suspect's appearance in order to focus on material which would be more objective and relevant to identifying the suspect.

The four recalls of each subject were compared with the "Correct" Description of the Suspect and categorized as 'errors' of details of the suspect, 'correct' details of the suspect, or 'don't know' responses. For example, a subject might say that the suspect was wearing a "light brown cowboy hat. Big, floppy and leather." This statement would be categorized as four correct and two errors of details of the suspect with hat, cowboy, light brown and big being correct (C). Floppy and leather, which were not part of the "correct" description, were, therefore, counted as errors (E).

If the subject said in Recall Trial 2 that the suspect wore a jacket (C), with YUKON on the back (C), letters between the shoulders (C), like a team sport's jacket (E), this would be counted as three corrects and one error. In Recall Trial 3 (hypnosis), the same subject might say the suspect wore a jacket (C), with YUKON on the back (C), windbreaker (C), nylon (C), doesn't cover the pocket on the jeans (C), patch on one arm (E), number on patch (E), # 10 or 11 (E). This would be counted as five correct details and three errors of details of the suspect.

A frequency count was made to determine the total number of errors and the total number of correct details of the suspect for each subject in each recall trial (four in all). In addition, the total number of highly confident ratings (4's and 5's) were tallied in each case. Further, the total number of 'new' errors and 'new' correct details of the suspect were counted for Recall Trials 2, 3, and 4 as well as the highly confident ratings (correct and errors) for these 'new' items. The total number of 'don't know' responses were counted for each recall trial. Confidence ratings were not taken on the 'don't know'

responses to keep the experimental condition more analogous to the field setting of an eyewitness interrogation.

### **Interrater and Intrarater Reliability**

Pearson's correlation was used to compare the frequency scores obtained by the Experimenter and an Independent Rater from the four recalls of the even-numbered subjects. The interrater reliability coefficients ( $n = 25$ ) for the Total Correct Details of the Suspect for Recall Trials 1, 2, 3, and 4 were respectively .80, .73, .86 and .89. For the Highly Confident Correct Details of the Suspect the correlation coefficients for the four recalls, were .83, .85, .88, and .93. A similar analysis of the Total Errors of Details of the Suspect found the correlation coefficients ( $n = 24$ , missing data for one subject) for the four recalls to be .75, .79, .77, and .82 respectively. Correlation coefficients for the Highly Confident Errors of Details of the Suspect for Recall Trials 1, 2, 3, and 4 were respectively .71, .80, .85, and .87. These correlation coefficients were all significant at the  $p < .001$  level for a two - tailed test of significance.

An intrarater reliability correlation was made, for the odd-numbered subjects ( $n=25$ ), using one set of frequency scores obtained by the Experimenter initially and a second set, on the same data, rescored by the Experimenter approximately one year later. The Pearson correlation coefficients for the Total Correct Details of the Suspect were respectively .90, .73, .85, and .79 for Recall Trials 1, 2, 3, and 4. For the Highly Confident Correct Details of the Suspect the correlation coefficients, for the four recall trials, were .92<sup>\*</sup>, .89, .91, and .91. The intrarater correlation coefficients for the Total Errors of Details of the Suspect were .50, .63, .64 and .80 for Recall Trials 1, 2, 3, and 4 respectively. For the Highly Confident Errors of Details of the Suspect, the correlation coefficients were .58, .75, .69, and .83 for the four recall trials. Except for two coefficients, all correlations were significant at the  $p < .001$  level for a two-tailed test of significance.

Examination of the means for the original and reliability data, for the odd-numbered subjects, revealed that the means were larger in the second set of data for all but two of the comparisons. The Experimenter appeared to have analyzed both the correct and errors of recall in more detail in the second (reliability) analysis. It was decided, therefore, that the more conservative data, the original frequency scores obtained by the Experimenter for the entire sample (N=50), would be used for all further statistical analyses. Overall, the correlation coefficients for both the interrater and intrarater comparisons, that is, for the even-numbered and the odd-numbered subjects, reached a level of significance of .001 for a two-tailed test of significance in the majority of cases.

### **Statistical Analyses**

The *t* test for a difference between two independent means will be used to compare the two groups on age and on the measures of depth of hypnosis, absorption, style of thinking and visual retention. The non-parametric statistic, the chi-square contingency test will be used to compare the two groups, that is, the Reiser Experimental Group and the Standard Experimental Group on the qualitative variables of sex, language, visual acuity, use of visual aids, etc. Yate's correction will be used when the cell values are less than five. Due to the ordinal nature of the variables for hypnotic susceptibility, a non-parametric statistic, the Wilcoxon Rank-Sum test will be used to determine if there is a difference between the two groups on hypnotic susceptibility level as measured on the HGSHS: A and the SHSS: C (Mod.).

The analysis of the dependant variable, the eyewitness recall data on the details of the Suspect's appearance, will consist of establishing the means, standard deviations and standard errors for each set of data, that is, correct recall, errors of recall, corresponding confidence ratings on the recall, and the

"don't know" responses. The data will then be analyzed using a  $2 \times 3 \times 4$  mixed between-within subjects design analysis of variance (ANOVA) for unequal  $n$  with two between-subject variables, the two experimental conditions and the three hypnotic susceptibility levels, and one within-subject variable, the repeated time measure for the four recall trials. (It should be noted that, for the 'new' errors and 'new' correct details, a  $2 \times 3 \times 3$  ANOVA will be made as the data being analyzed will only be from three recall trials.) A positive bias of too many significant results may occur in repeated-measure designs due to the lack of independence among the observations (heterogeneous-covariance) (Olson, 1987). Therefore, the degrees of freedom will be corrected using the Greenhouse Geisser solution (Greenhouse & Geisser, 1959). It should be noted, however, that these conservative degrees of freedom will, if anything, tend to introduce a negative bias leading to too few significant results which is preferable (Olson, 1987).

In the case of significant main effects, post hoc comparisons will be made using the Tukey Honestly Significant Difference Test. In the case of a significant interaction, an analysis of variance (ANOVA) of the simple main effects will be made followed by a post hoc comparison using the Tukey Honestly Significant Difference Test. In all of the aforementioned analyses the acceptable  $\alpha$  level of significance will be .05 (2-tailed).

In order to determine whether one can predict the 'error prone individual', statistical analyses will be used to examine the relationship(s) between the errors of recall and certain characteristics of the individual. Initially, Pearson's correlation will be used to determine the relationship(s) between eight selected independent variables and the ten criterion variables concerned with the errors of details of the suspect in Recalls 1, 2, and 3.

For both theoretical and empirical reasons some variables are more liable to predict the 'error' prone individual than others, therefore, the

hierarchical model of multiple regression analysis will be used in order to permit the experimenter to control the order of entry of these variables. The predictor variables, that is, the independent variables considered to be antecedent characteristics of the subject but whose effect is less well known in relation to errors of recall, will be selected *a priori* and entered first as a set (Block 1) and held constant for the subsequent steps of the analysis. In this way, this set will be used to covary or partial out the proportion of variance due to their antecedent effect (Cohen & Cohen, 1983). The major or better known predictor variables will be entered second, thereby, permitting the major set (Block 2) to be evaluated for what it adds to the prediction of the criterion or dependent variable over and above the first set (Tabachnik & Fidell, 1983). If there is a significant increase in  $R^2$  for a set of variables, an examination of the regression coefficients (Beta) for each predictor variable in the set will reveal which variable is responsible for the change.

## RESULTS

The study sought to address two main questions. Firstly, it sought to determine the degree to which each of the two experimental induction conditions, the hypno-investigative Reiser Induction or the Standard Induction, facilitate more accurate eyewitness recall. To answer this question, analyses focused upon the two experimental conditions; the three levels of hypnotic susceptibility, (low, medium, and high); and the recall and confidence ratings of the eyewitness testimony of the subject in the four recall trials. For purposes of these analyses, the eyewitness recall has been restricted to the details of the suspect's appearance.

Secondly, the study asked whether certain characteristics of an individual can predict the outcome of their eyewitness testimony. For practical purposes, knowing the criteria by which one could predict the 'error prone individual', might markedly influence the type of investigative procedures used with eyewitnesses. The data, for this question, will examine the relationship(s) between the errors of recall and the demographic characteristics of the subjects, their hypnotic susceptibility, and their performance on the measures of absorption, style of thinking and visual attention.

### Group Comparability

Fifty (26 female, 24 male) university students participated in the study. The subjects ranged in age from 17 to 49 years and there was no significant difference in age between the subjects in the two experimental induction conditions (Reiser (n = 23)  $\underline{M}$  =22.78,  $\underline{SD}$  = 6.47 and Standard (n = 27)  $\underline{M}$  =21.52,  $\underline{SD}$  =3.03; [t (48) = .91, n.s.]).

There were also no significant differences between the subjects in the two conditions on such variables as sex and language, that is whether English was their first, second or third language (all sessions and questionnaires were conducted in English). As the study involved a visual retention task, the subject's visual acuity and use of visual aids such as glasses, contact lenses, etc. in daily life and during the experiment were examined. There were no significant differences between the subjects in the two conditions on any of these variables (see Table 1).

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INSERT TABLE 1, ABOUT HERE

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Both experimental inductions involved hypnosis; therefore, further group comparisons were made on subject characteristics, such as hypnotic susceptibility level, depth of hypnosis, and capacity for absorption, which might influence the outcome of their eyewitness testimony. In addition, since the experiment involved a visual retention task, group comparisons of the subject's style of thinking and capacity for visual memory were performed.

The results, which are displayed in Table 2, show no significant group differences on hypnotic susceptibility level as measured on the HGSHS:A and the SHSS:C (Mod.).

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INSERT TABLE 2, ABOUT HERE

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**Table 1**  
**Comparison of Characteristics of the Subjects in the Reiser (n=23) vs the Standard (n=27) Experimental Induction Groups.**

Variable	Group		X <sup>2</sup>	df	p		
	Reiser	Standard					
	n	%	n	%			
<b>Sex</b>							
Male	12	52.2	11	40.7	.65	1	n.s.
Female	11	47.8	16	59.0			
<b>Language</b>							
First	15	65.2	18	66.7	.96	2	n.s.
Second	8	34.8	8	29.6			
Third	0	00.0	1	3.7			
<b>Visual Acuity</b>							
Below Average	0	00.0	4	14.8	5.25	2	n.s.
Average	17	73.9	13	48.1			
Above Average	6	26.1	10	37.1			
<b>Visual Aids</b>							
No	8	34.8	10	37.0	.00	1	n.s.
Yes	15	65.2	17	63.0			
<b>Visual Aids Used in Study<sup>a</sup></b>							
No	10	45.5	14	51.0	.11	1	n.s.
Yes	12	54.5	13	48.1			

Note. n.s. = non-significant.

<sup>a</sup> Missing data for one subject.

**Table 2**  
**Comparison of Hypnotic Susceptibility Levels for Ss in the Reiser (n=23) and Standard (n=27) Induction Conditions Using the Wilcoxon Rank-Sum Test**

Variable	Group		Test Value	p
	Reiser n      %	Standard n      %		
<b>HGSHS: A</b>				
High	4    17.4	10   37.0	z <sub>rank sum</sub> = - .99	n.s.
Medium	14   60.9	11   40.7		
Low	5    21.7	6    22.2		
<b>SHSS: C (Mod.)</b>				
High	8    34.8	10   37.0	z <sub>rank sum</sub> = -.31	n.s.
Medium	7    30.4	9    33.3		
Low	8    34.8	8    29.6		

Subjects, in both groups, did not differ significantly on the ratings on the Depth of Hypnosis Questionnaire (DHQ) on items common to both experimental inductions, that is, item 2 - Awareness of Right Hand, item 3 - Arm Levitation (Balloon) and item 4 - Arm Rigidity (see Table 3).

Two measures were taken to determine the subjects' capacity for absorption, that is, the capacity an individual has to become involved or absorbed in reality or fantasy events outside a hypnotic context. It was found that the groups differed significantly on the two measures of absorption, the Tellegen and Atkinson's 'Absorption Scale'(TAS) and the Personal Experiences Questionnaire: Form CA-79 (PEQ: CA-79) (see Table 3). In each case, subjects in the Standard Induction condition had higher scores suggesting a greater capacity for absorption.

All subjects were asked, in the recall trials, to remember details of the Suspect's appearance that they had witnessed in the slide series in the first session. As this was a visual retention task, it was felt that the subject's preferred thinking style might influence the recall. The Preference for an Imagic Cognitive Style Questionnaire (PICS) was used to determine whether the subject preferred an imagic (visual/auditory), verbal, or mixed mode style of thinking. No difference was found between the groups on overall scores on style of thinking as measured on the PICS (see Table 3).

The Revised Benton Visual Retention Test (RBVRT) was used to determine the visual retention capacity of all the subjects. It was found that the groups differed significantly on the RBVRT in terms of the number of correct responses as the subjects in the Reiser condition made more correct responses and fewer errors than those in the Standard condition (see Table 3 for these group comparisons).

Since, using Pearson correlations, no significant relationship was found between any of the dependent variables concerned with eyewitness recall, the two measures of absorption (TAS and PEG: CA-79) and the visual

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INSERT TABLE 3, ABOUT HERE

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retention scores (RBVRT-Correct and Errors), there was no need to perform an analysis of covariance (ANCOVA) (Elashoff, J.D., 1969). Therefore, the statistical analyses proceeded as previously described.

### **Analysis of Recall Data**

The analysis of the eyewitness recall data on the details of the Suspect's appearance, as reported by subjects in the Reiser and Standard experimental conditions, will be presented in the following order, that is, correct recall, errors of recall and "don't know" responses.

### **Correct Recall**

The Correct Recall data will be presented in the following sequence, that is, Total Correct Details of the Suspect in Recall Trials 1, 2, 3, and 4; New Correct Details of the Suspect in Recall Trials 2, 3, and 4; Highly Confident Correct Details of the Suspect in Recall Trials 1, 2, 3, and 4; and Highly Confident New Correct Details of the Suspect in Recall Trials 2, 3, and 4.

### **Total Correct Details of the Suspect**

The means for the Total Correct Details of the Suspect, for subjects in both the Reiser and Standard experimental conditions according to hypnotic susceptibility level, (high, medium and low), and time, (the four recall trials), are displayed in Table 4. It should be noted that in Recall Trial 3, subjects gave their eyewitness recall while experiencing hypnosis in one or other of the experimental conditions.

**Table 3**  
**Comparison of Subjects in the Reiser (n=23) vs Standard (n=27) Experimental**  
**Induction Conditions on Measures of Depth of Hypnosis, Absorption, Style of**  
**Thinking and Visual Retention**

Variable	Group				t	df	p
	Reiser		Standard				
	Mean	SD	Mean	SD			
<b>Depth of Hypnosis</b>							
DHQ							
Item 2	6.00	2.95	6.04	2.74	-.05	48	n.s.
Item 3	5.68	3.08	5.89	3.89	-.22	47 <sup>a</sup>	n.s.
Item 4	4.87	2.88	5.26	3.25	-.44	48	n.s.
<b>Absorption</b>							
TAS	18.83	7.43	25.07	4.8	-3.46	48	.001
PEQ: CA-79	10.52	3.73	12.85	3.21	-2.38	48	.02
<b>Style of Thinking</b>							
PICS	9.26	6.89	10.33	5.20	-.63	48	n.s.
<b>Visual Retention</b>							
RBVRT							
# Correct	7.96	1.85	6.67	1.73	2.55	48	.014
# Errors	2.65	2.59	4.19	2.54	-2.11	48	.04

<sup>a</sup> Missing data for one subject.

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INSERT TABLE 4, ABOUT HERE

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These data were analyzed in a 2 x 3 x 4 mixed between-within subjects design analysis of variance (ANOVA) for unequal n with two between - subject variables, the two experimental conditions and the three hypnotic susceptibility levels, and one within - subject variable, the repeated time measure for the four recall trials. The analysis showed a significant main effect for the repeated time measure, the Recall Trials [ $F(2, 111) = 15.68, p < .0001$ ], but no other significant main or interaction effects (see Source Table in Appendix R). Post-hoc comparisons using the Tukey Honestly Significant Difference Test (HSD) revealed that there was a significant difference in Total Correct Details of the Suspect between Recall Trial 1 (initial session) and Recall Trial 3 (hypnosis) [ $HSD(4,132) = 5.69, p < .01$ ] as well as between Recall Trial 2 and Recall Trial 3 [ $HSD(4,132) = 8.37, p < .01$ ]. There was also a significant difference in the Total Correct Details of the Suspect between Recall Trial 3 (hypnosis) and Recall Trial 4 (post-hypnosis) [ $HSD(4, 132) = 8.32, p < .01$ ]. As shown in Figure 2, the mean frequency of Total Correct Details of the Suspect was higher in Recall Trial 3, the hypnosis condition. These results are displayed in Figure 2.

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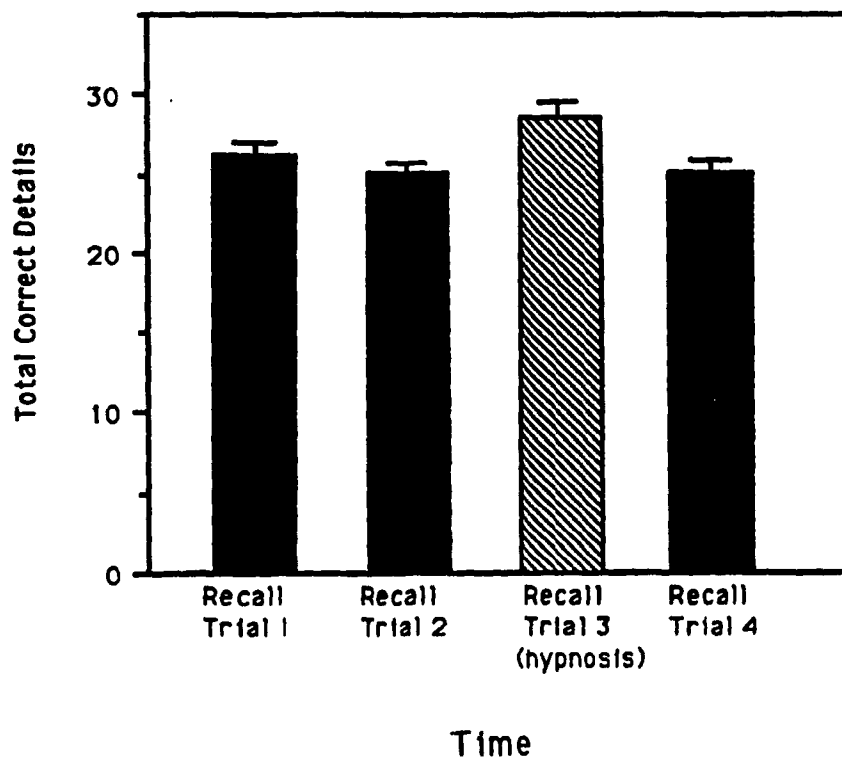
INSERT FIGURE 2, ABOUT HERE

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**Table 4**  
**Mean Number of Total Correct Details of the Suspect Recalled by Subjects**  
**According to Experimental Condition, Level of Susceptibility and by Time**  
**(Recall Trials)**

Recall Trials		Time							
		1		2		3		4	
Condition	n	M	SD	M	SD	M	SD	M	SD
<i>Reiser</i>	23	26.87	6.84	25.13	5.60	29.87	7.46	26.13	6.56
High	8	30.25	7.29	27.38	5.88	32.25	7.67	26.13	6.71
Medium	7	25.00	7.59	24.00	6.38	27.57	7.48	26.57	6.90
Low	8	25.12	4.94	23.88	4.52	29.50	7.48	25.75	7.00
<i>Standard</i>	27	25.59	5.69	25.00	4.94	27.44	6.33	24.19	4.96
High	10	26.90	7.80	27.20	6.11	28.30	8.69	25.30	6.24
Medium	9	24.33	3.67	24.00	2.96	26.67	2.96	23.00	2.29
Low	8	25.38	4.72	23.38	4.63	27.25	6.32	24.13	5.64
<b>Total</b>	50	26.18	6.21	25.06	5.20	28.56	6.91	25.08	5.77

**Note:** Recall trial 3 was taken during hypnosis.



**Figure 2.** Mean number of total correct details recalled in trials 1, 2, 3, and 4 for the entire sample (N=50). (Bars on the histogram represent the standard errors of the means).



### New Correct Details of the Suspect

The previous analysis indicated that the greater frequency of Total Correct Details of the Suspect occurred during hypnosis. It appeared important, therefore, to know whether the higher frequency was due to 'new' correct eyewitness recall or simply the same information repeated from the two preceding trials (Recall Trial 1 in the first Session and Recall Trial 2 just prior to hypnosis in Session II). Therefore, the mean number of the New Correct Details of the Suspect in both the Reiser and Standard experimental conditions, for the three levels of hypnotic susceptibility, and for the three recall trials, that is, Recall Trials 2, 3, and 4, were computed and the results are displayed in Table 5.

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INSERT TABLE 5, ABOUT HERE

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A  $2 \times 3 \times 3$  mixed between-within subjects design analysis of variance (ANOVA) for unequal  $n$ , (2 experimental conditions; 3 levels of susceptibility; and the repeated time measure, Recall Trials 2, 3, and 4), was performed. The analysis showed a significant interaction effect for Recall Trials  $\times$  Experimental Condition [ $F(2, 73) = 4.63, p < .05$ ] (see Source Table in Appendix S) (see Footnote 1).

Analysis of simple main effects revealed that when the two groups, Reiser vs Standard, were compared on each recall trial no significant group difference was found on Recall Trial 2 [ $F(1,48) = 1.047, n.s.$ ] and Recall Trial 4 [ $F(1,48) = 1.609, n.s.$ ]. However, there was a significant difference between the two groups in Recall Trial 3, the hypnosis recall [ $F(1,48) = 5.35, p < .05$ ], with subjects in the Reiser experimental condition recalling a significantly greater

**Table 5**  
**Mean Number of New Correct Details of the Suspect Recalled by Subjects**  
**According to Experimental Condition, Level of Susceptibility and by Time**  
**(Recall Trials 2, 3, and 4)**

Recall Trials		Time					
		2		3		4	
Condition	n	M	SD	M	SD	M	SD
<i>Reiser</i>	23	4.70	2.34	7.22	4.12	1.44	1.24
High	8	5.50	2.51	7.75	4.17	1.00	1.07
Medium	7	4.14	2.80	6.57	3.41	1.29	1.11
Low	8	4.38	1.77	7.25	5.04	2.00	1.41
<i>Standard</i>	27	5.37	2.31	5.00	2.59	1.04	.98
High	10	5.90	2.33	5.50	3.34	1.30	1.16
Medium	9	5.44	2.56	4.67	2.55	.89	.78
Low	8	4.63	2.07	4.75	1.58	.88	.99
<i>Total</i>	50	5.06	2.33	6.02	3.53	1.22	1.11

**Note:** Recall trial 3 was taken during hypnosis.

mean number of New Correct Details of the Suspect. Figure 3 illustrates these results.

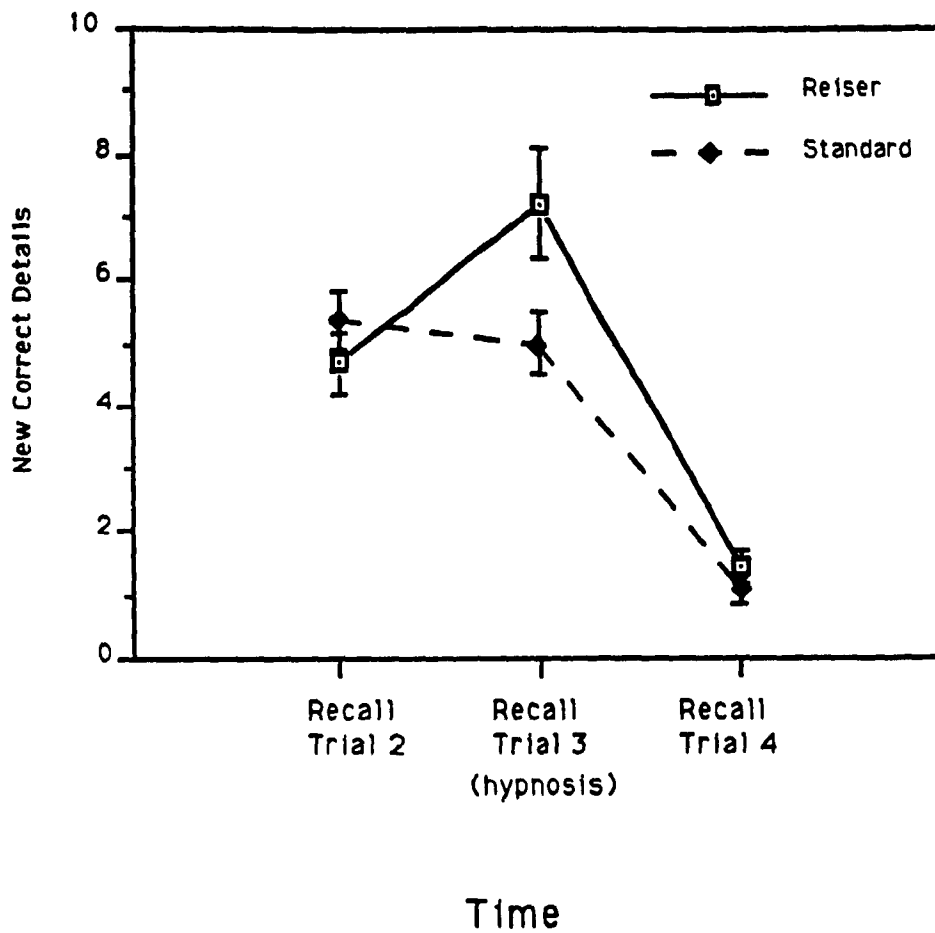
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INSERT FIGURE 3, ABOUT HERE

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When the mean number of New Correct Details of the Suspect reported in the three Recall Trials were compared within the two experimental conditions, the following pattern of results was observed. Within both the Reiser ( $n=23$ ) and the Standard ( $n=27$ ) experimental conditions, there was a highly significant difference [ $F(2, 44) = 29.88, p < .0001$  and  $F(2, 52) = 36.31, p < .0001$  respectively] among the three Recall Trials. Post hoc comparisons were performed to determine where, within each experimental condition, the difference(s) occurred in time. These comparisons indicated that, in the Reiser experimental condition, there was a significant difference in New Correct Details of the Suspect between Recall Trials 2 and 3 (pre-hypnosis and hypnosis) [ $HSD(3, 44) = 4.75, p < .01$ ], between Recall Trials 2 and 4 (pre and post-hypnosis) [ $HSD(3, 44) = 6.15, p < .01$ ] and between Recall Trials 3 and 4 (hypnosis and post-hypnosis) [ $HSD(3, 44) = 10.90, p < .01$ ]. Within the Standard experimental condition there was a slightly different pattern with a non-significant difference between Recall Trials 2 and 3 (pre-hypnosis and hypnosis) [ $HSD(3, 52) = .93, n.s.$ ] but a significant difference in the mean number of New Correct Details of the Suspect between the pre and post hypnosis recalls (Recall Trials 2 and 4) [ $HSD(3, 52) = 10.86, p < .01$ ] and the hypnosis and post-hypnosis recalls (Recall Trials 3 and 4) [ $HSD(3, 52) = 9.94, p < .01$ ] (see Figure 3).

Figure 3 illustrates the interaction effect between the Recall Trials and the Experimental Conditions where subjects in the Reiser experimental



**Figure 3.** Mean number of new correct details recalled in the Reiser (n=23) and Standard (n=27) experimental conditions in trials 2, 3, and 4. (Bars represent the standard errors of the means).

condition show a significantly greater mean frequency of New Correct Details of the Suspect during the hypnosis recall (Recall Trial 3) than do subjects in the Standard experimental condition. Subjects, in both experimental conditions, recall a similar mean number of new correct details in both the pre and post hypnosis recall trials. In each case, there is a significant difference between the frequency of recall during hypnosis (Recall 3) and that reported in the final session one week later (Recall 4), when a lower mean frequency of new correct details are reported.

#### **Highly Confident Correct Details of the Suspect**

During the Recall Procedure, subjects were asked to give a confidence rating for each piece of information that they reported on the Suspect's appearance (See Methods - Recall Procedure for methodology). For purposes of this analysis, Highly Confident Correct Details of the Suspect were defined as eyewitness recall to which the subject had given a highly confident rating of either 4 or 5 during the Recall Procedure. The means for the Highly Confident Correct Details of the Suspect for both experimental conditions (Reiser and Standard), three levels of hypnotic susceptibility, and time, that is, the total number of recall trials (4), are shown in Table 6. In each instance, it can be seen that the greater mean number of Highly Confident Correct Details of the Suspect occurred during hypnosis, that is, in Recall Trial 3.

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INSERT TABLE 6, ABOUT HERE

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A 2 x 3 x 4 mixed-design analysis of variance (ANOVA) for unequal n was performed on these data. While the analysis yielded no significant effects

**Table 6**  
**Mean Number of Total Highly Confident Correct Details of the Suspect**  
**Recalled by Subjects According to Experimental Condition, Level of**  
**Susceptibility and by Time (Recall Trials)**

Recall Trials		Time							
		1		2		3		4	
Condition	n	M	SD	M	SD	M	SD	M	SD
<i>Reiser</i>	23	20.61	7.01	17.83	6.99	25.48	7.97	18.39	7.80
High	8	22.25	8.80	19.38	8.85	28.50	9.27	19.50	7.87
Medium	7	18.86	5.90	15.29	4.42	22.57	7.61	15.71	4.61
Low	8	20.50	6.39	18.50	6.99	25.00	6.70	19.63	10.04
<i>Standard</i>	27	19.48	4.70	19.56	5.37	23.93	7.16	19.48	6.01
High	10	21.10	4.20	20.80	6.70	25.30	8.49	19.80	7.24
Medium	9	18.67	4.74	18.67	4.50	23.11	5.18	18.89	3.72
Low	8	18.38	5.26	19.00	4.75	23.13	7.94	19.75	7.09
<i>Total</i>	50	20.00	5.84	18.76	6.16	24.64	7.51	18.98	6.84

**Note:** Recall trial 3 was taken during hypnosis.

for experimental condition [ $F(1, 44) = .00$ , n.s.] or level of hypnotic susceptibility [ $F(2, 44) = 1.18$ , n.s.], it indicated a significant main effect for the repeated measure factor, the Recall Trials [ $F(2, 97) = 25.04$ ,  $p < .0001$ ] (see Source Table in Appendix T).

Post-hoc comparisons showed that there was a significant difference in Highly Confident Correct Details of the Suspect from Recall Trials 1 (initial session) to 3 (hypnosis) [HSD (4, 132) = 8.38,  $p < .01$ ], and from Recall Trial 2 (pre-hypnosis) to Recall Trial 3 (hypnosis) [HSD (4, 132) = 10.62,  $p < .01$ ]. In each case, a greater number of Highly Confident Correct Details of the Suspect responses was made during hypnosis. A significant difference was also seen between Recall Trial 3 (hypnosis) and Recall Trial 4 (post-hypnosis) [HSD (4, 132) = 10.22,  $p < .01$ ] with fewer Highly Confident Correct Details of the Suspect responses being given in the final recall session than during hypnosis. There was no significant difference in Highly Confident Correct Details of the Suspect responses for the other comparisons, that is, Recall Trials 1 vs 2, Recall Trials 1 vs 4, and Recall Trials 2 vs 4 (pre and post-hypnosis). These results suggest that hypnosis itself, regardless of what suggestions and metaphors about memory are administered to the subject, may have a strong effect on the subject's confidence ratings of the correct recall of the details of the Suspect's appearance.

#### **New Highly Confident Correct Details of the Suspect**

Again, it was considered important to know whether the frequency of the highly confident ratings for correct recall was due to the repetition of material from the preceding recall trials or whether these confident ratings were as frequent for the 'new' correct details that they recalled. Therefore, the following analysis examines the highly confident ratings for the New Correct Details of the Suspect in Recall Trials 2, 3, and 4. The means for the New Highly Confident Correct Details of the Suspect ratings in both the Reiser and

Standard experimental induction conditions, the three susceptibility levels (high, medium, and low), as well as the repeated measures factor of Recall Trials 2, 3, and 4 may be seen in Table 7

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INSERT TABLE 7, ABOUT HERE

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A 2 x 3 x 3 mixed- design analysis of variance (ANOVA) for unequal n was used to analyze this data. The analysis yielded a significant interaction effect for Recall Trials x Experimental Condition [ $F(1, 65) = 4.34, p < .05$ ] (see Appendix U for Source Table) (see Footnote 2). Due to the significant interaction, an analysis of simple main effects was performed which revealed no significant difference between the Reiser ( $n = 23$ ) experimental and the Standard ( $n = 27$ ) experimental group, in the number of New Highly Confident Correct Details of the Suspect ratings obtained, in any of the three recall trials (Recall Trial 2 [ $F(1, 49) = 2.78, n.s.$ ], Recall Trial 3 (hypnosis) [ $F(1, 49) = 2.53, n.s.$ ] and Recall Trial 4 (post-hypnosis) [ $F(1, 49) = .004, n.s.$ ]. When the mean number of ratings of New Highly Confident Correct Details of the Suspect were compared within each of the experimental conditions, an analysis of simple main effects revealed that there was a significant difference in the total ratings for both the Reiser [ $F(2, 44) = 22.67, p < .0001$ ] and Standard [ $F(2, 52) = 25.09, p < .0001$ ] experimental conditions over time.

Post hoc comparisons showed that, for subjects in the Reiser experimental condition, there was a significant difference in New Highly Confident Correct Details of the Suspect ratings from Recall Trials 2 to 3 (pre-hypnosis to hypnosis) [ $HSD(3, 44) = 5.89, p < .01$ ]. There was also a significant difference from Recall Trials 2 to 4 (pre to post-hypnosis) [ $HSD(3, 44) = 3.54,$



**Table 7**  
**Mean Number of New Highly Confident Correct Details of the Suspect**  
**Recalled by Subjects According to Experimental Condition, Level of**  
**Susceptibility and by Time (Recall Trials 2, 3, and 4)**

Recall Trials		Time					
		2		3		4	
Condition	n	M	SD	M	SD	M	SD
<i>Reiser</i>	23	2.39	1.78	5.35	4.27	.61	.84
High	8	2.88	2.23	6.38	4.67	.63	.74
Medium	7	1.43	.79	4.71	3.50	.29	.49
Low	8	2.75	1.75	4.88	4.82	.88	1.13
<i>Standard</i>	27	3.37	2.29	3.82	2.42	.59	.89
High	10	3.70	2.75	4.70	2.79	.70	.95
Medium	9	3.11	2.32	2.89	2.15	.33	.71
Low	8	3.25	1.83	3.75	2.05	.75	1.04
<i>Total</i>	50	2.92	2.11	4.52	3.45	.60	.86

**Note:** Recall trial 3 was taken during hypnosis.

$p < .01$ ] and from Recall Trials 3 to 4 (hypnosis to post-hypnosis) [HSD(3, 44) = 9.43,  $p < .01$ ]. For subjects in the Standard experimental condition, there was no significant difference in New Highly Confident Correct Details of the Suspect from Recall Trial 2 to 3 (hypnosis) [HSD(3, 52) = 1.29, n.s.]. However, there was a highly significant difference in New Highly Confident Correct Details of the Suspect from the pre to post hypnosis recall (Recall Trials 2 and 4) [HSD(3, 52) = 7.97,  $p < .01$ ] and from the hypnosis to post hypnosis recall (Recall Trials 3 and 4) [HSD(3, 52) = 9.26,  $p < .01$ ] (see Figure 4).

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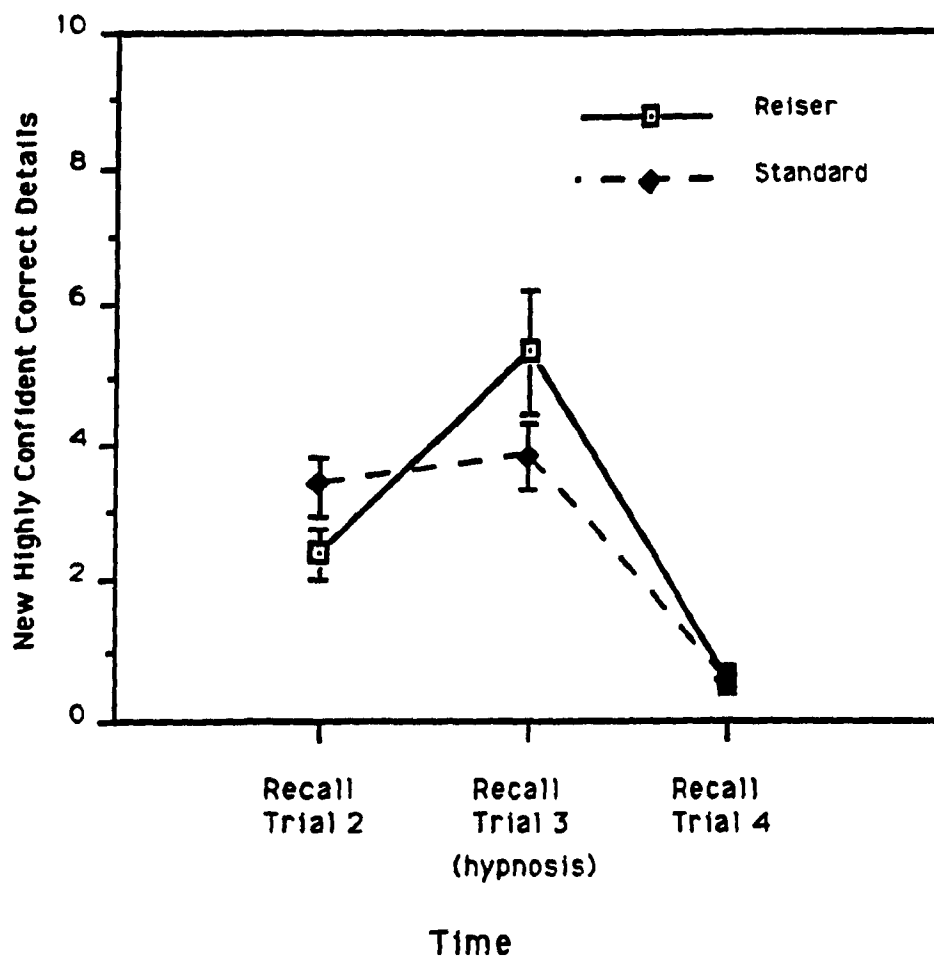
INSERT FIGURE 4, ABOUT HERE

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Figure 4 summarizes the interaction effect between the Recall Trials and the Experimental Conditions. Although the two groups do not differ significantly at Recall 2 or Recall 3, there is an increase in highly confident ratings between Recalls 2 and 3, which is significant for the Reiser but not for the Standard experimental group. It should be noted that the highly confident ratings for the two experimental groups look very similar for the pre and post-hypnosis recall trials (Recall 2 vs Recall 4). In both experimental conditions, there was a significant difference between the number of highly confident ratings given during the hypnosis recall and Recall 4 in the final session where all subjects reported a lower mean frequency of highly confident ratings on the new correct details of the suspect.

#### **Errors of Details of the Suspect**

The Errors of Recall data will be presented in the following sequence, that is, Total Errors of Details of the Suspect over time (Recall Trials 1, 2, 3,



**Figure 4.** Mean number of new highly confident correct details recalled in the Reiser ( $n=23$ ) and Standard ( $n=27$ ) experimental conditions in trials 2, 3, and 4. (Bars represent the standard errors of the means).

and 4); New Errors of Details of the Suspect in Recall Trials 2, 3, and 4; Highly Confident Errors of Details of the Suspect in the four recall trials; and New Highly Confident Errors of Details of the Suspect in Recall Trials 2, 3, and 4.

### **Total Errors of Details of the Suspect**

The mean number of Total Errors of Details of the Suspect reported by subjects by experimental conditions (two), levels of hypnotic susceptibility (three) and by time (four recalls) may be seen in Table 8. In each instance, it can be seen that the higher mean number of Total Errors of Details of the Suspect occurred during hypnosis, that is, in Recall Trial 3.

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INSERT TABLE 8, ABOUT HERE

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Statistical analysis using a  $2 \times 3 \times 4$  ANOVA indicated a significant main effect for Recall Trials [ $F(3, 121) = 45.07, p < .0001$ ], but no other significant main or interaction effects (see Source Table in Appendix V).

Post-hoc comparisons indicated there was no significant difference in the mean number of Total Errors of Details of the Suspect from Recall Trial 1 to Recall Trial 2 one week later. There was, however, a significant difference between Recall Trials 1 (initial session) and 3 (hypnosis) [ $HSD(4, 132) = 14.10, p < .01$ ], Recall Trials 2 and 3 [ $HSD(4, 132) = 14.72, p < .01$ ] and between Recall Trials 3 and 4 [ $HSD(4, 132) = 8.22, p < .01$ ]. In each case, subjects recalled a greater mean number of Total Errors of Details of the Suspect in hypnosis (Recall Trial 3). In addition, a significant difference in the mean number of Total Errors of Details of the Suspect, was found between the initial and final trials (Recall Trials 1 and 4) [ $HSD(4, 132) = 5.89, p < .01$ ] and the pre and post-

**Table 8**  
**Mean Number of Total Errors of Details of the Suspect Recalled by Subjects**  
**According to Experimental Condition, Level of Susceptibility and by Time**  
**(Recall Trials)**

Recall Trials		Time							
		1		2		3		4	
Condition	n	M	SD	M	SD	M	SD	M	SD
<i>Reiser</i>	23	14.00	4.72	13.61	4.38	21.44	5.07	17.00	4.43
High	8	14.38	5.01	13.00	4.63	23.88	5.64	15.75	5.04
Medium	7	15.14	3.39	14.14	3.89	19.29	3.09	17.71	2.69
Low	8	12.63	5.61	13.75	5.01	20.88	5.38	17.63	5.24
<i>Standard</i>	27	16.44	4.20	16.26	4.54	23.00	6.02	18.85	4.96
High	10	17.60	4.43	17.60	6.26	25.10	7.03	21.00	4.94
Medium	9	15.33	4.80	15.22	2.99	21.78	4.41	18.00	3.74
Low	8	16.25	3.24	15.75	3.41	18.38	4.47	17.13	5.74
<i>Total</i>	50	15.32	4.57	15.04	4.62	21.74	5.55	18.00	4.77

**Note:** Recall trial 3 was taken during hypnosis.

hypnosis trials, Recall Trials 2 and 4 [ $HSD(4, 132) = 6.50, p < .01$ ]. In each case, a higher mean number of Errors of Details of the Suspect were reported in the final session than in the pre-hypnosis recalls (see Figure 5).

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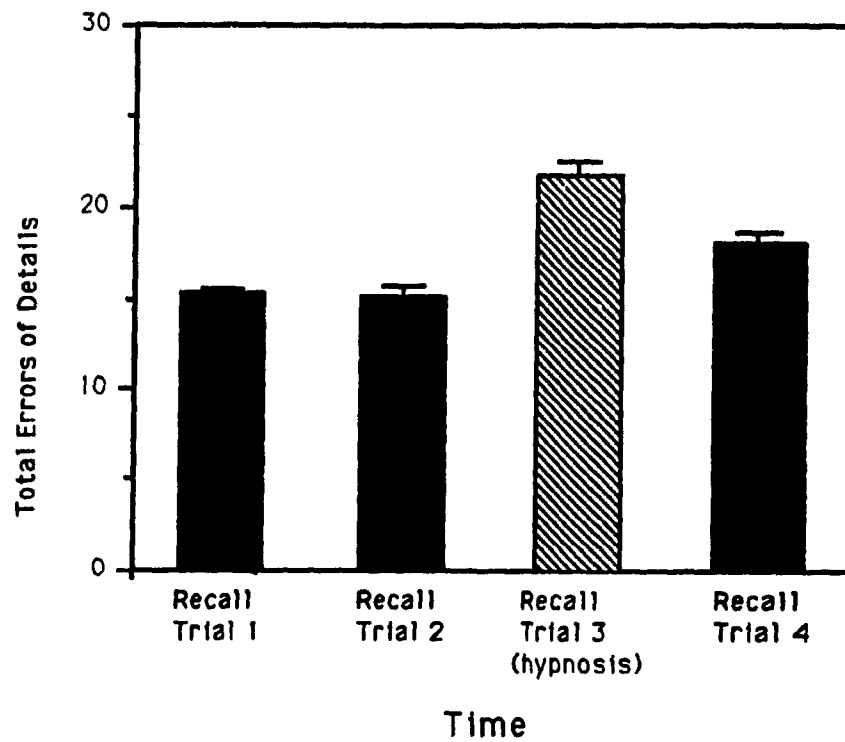
INSERT FIGURE 5, ABOUT HERE

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Overall, the introduction of hypnosis in Recall Trial 3, led to significantly more Total Errors of Details of the Suspect. This was consistent regardless of the type of induction used and the level of hypnotic susceptibility of the subject. In addition, despite a reduction of the mean frequency of these errors from Recall 3 (hypnosis) to Recall 4 (post-hypnosis), some of these errors were retained post-hypnosis as the mean number of errors does not return to the pre-hypnosis levels of Recall Trials 1 or 2 (Figure 5 illustrates these findings.)

#### **New Errors of Details of the Suspect**

The previous analysis showed that the greater mean number of Total Errors of Details of the Suspect occurred during hypnosis. It was important, therefore, to know whether these were errors accumulated from one recall trial to another, or whether, in fact, they were new errors made in each of the subsequent recall trials. The means for the New Errors of Details of the Suspect for both the Reiser and Standard Experimental Conditions, for the three hypnotic susceptibility levels and for the three recalls, Recall Trials 2, 3, and 4, may be seen in Table 9.



**Figure 5.** Mean number of total errors of details recalled in trials 1, 2, 3, and 4 for the entire sample (N=50). (Bars on the histogram represent the standard errors of the means).

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INSERT TABLE 9, ABOUT HERE

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A  $2 \times 3 \times 3$  mixed-design analysis of variance (ANOVA) did not show a significant interaction effect for Recall Trials  $\times$  Experimental Condition [ $F(1, 61) = 3.12, p < .08$ ] (see Source Table in Appendix W) (see Footnote 3). However, as this result was close to significance at the .05 level, and, in view of the use of the very conservative Greenhouse and Geisser epsilon value for the degrees of freedom, it was decided to analyze this interaction further.

Analysis of the simple main effects revealed there were no significant differences between the two groups in the mean frequency of New Errors of Details for Recall Trials 2, 3 and 4. However, when the interaction effect was examined within each experimental group, an analysis of simple main effects found that there was a highly significant difference in the new errors for the time variable within both the Reiser ( $n = 23$ ) [ $F(2, 44) = 39.52, p < .0001$ ] and the Standard ( $n = 27$ ) [ $F(2, 52) = 14.75, p < .0001$ ] experimental conditions.

Post-hoc comparisons were performed to determine where, within each experimental condition, the difference(s) occurred in time. Within the Reiser condition, there was a significant difference in the mean number of New Errors of Details of the Suspect from Recall Trials 2 to 3 (pre-hypnosis to hypnosis) [ $HSD(3, 44) = 8.04, p < .01$ ], from the hypnosis to post-hypnosis trial one week later (Recall Trial 3 to Recall Trial 4) [ $HSD(3, 44) = 12.38, p < .01$ ] and from the pre to post-hypnosis recall trials (Recall Trial 2 to Recall Trial 4) [ $HSD(3, 44) = 4.34, p < .05$ ]. Subjects, in the Reiser condition, reported the greater mean number of new errors during hypnosis (Recall Trial 3). Within the Standard experimental condition there was a slightly different pattern with a non-significant difference between Recall Trials 2 and 3 (pre - hypnosis



**Table 9**  
**Mean Number of New Errors of Details of the Suspect Recalled by Subjects**  
**According to Experimental Condition, Level of Susceptibility and by Time**  
**(Recall Trials 2, 3, and 4)**

Recall Trials		Time					
		2		3		4	
Condition	n	M	SD	M	SD	M	SD
<i>Reiser</i>	23	5.44	2.19	10.52	4.50	2.70	1.58
High	8	5.50	2.27	12.63	5.83	2.25	1.04
Medium	7	4.86	2.12	8.43	3.65	2.86	.69
Low	8	5.88	2.36	10.25	2.96	3.00	2.45
<i>Standard</i>	27	6.07	3.47	8.22	5.01	2.96	2.05
High	10	6.30	4.52	10.00	5.94	3.30	1.57
Medium	9	6.00	2.87	9.33	4.27	3.44	2.30
Low	8	5.88	3.00	4.75	2.66	2.00	2.20
<i>Total</i>	50	5.78	2.94	9.28	4.87	2.84	1.83

**Note:** Recall trial 3 was taken during hypnosis.

to hypnosis) [HSD(3, 52) = 3.12, n.s.]. However, a significant difference in the mean frequency of New Errors of Details of the Suspect was found when comparing the pre to post-hypnosis recalls (Recall Trials 2 to 4) [HSD(3, 52) = 4.52,  $p < .01$ ] as well as the hypnosis to post-hypnosis recalls (Recall Trials 3 to 4) [HSD(3, 52) = 7.64,  $p < .01$ ] with a lower mean frequency of new errors recalled in the final session (Session III)(see Figure 6).

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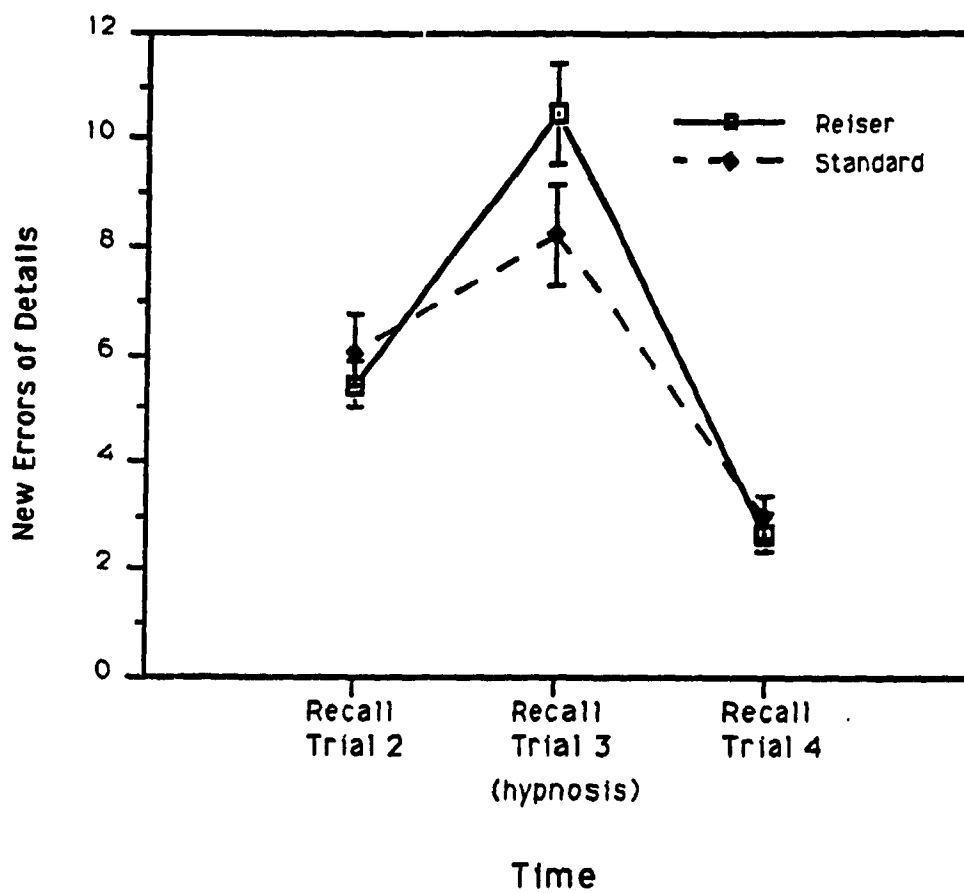
INSERT FIGURE 6, ABOUT HERE

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Figure 6 illustrates the interaction effect within the experimental conditions and the time variable. Subjects in the Reiser group recall a significantly greater mean frequency of New Errors of Details of the Suspect during the Reiser experimental induction in Recall Trial 3. Subjects in the Standard experimental condition do not show the same effect. This finding suggests that this effect is dependant upon the interaction of the experimental condition and the hypnosis experience (Recall 3) itself. Furthermore, in keeping with the pattern of recall that was observed for New Correct Details of the Suspect (See Figure 3), it can be seen that subjects, in both experimental conditions, recall a similar mean number of new errors prior to (Recall Trial 2) and a similar but lower frequency of new errors one week following hypnosis (Recall Trial 4) in the final session. In each case, the frequency of new errors reported is significantly lower in Recall 4.

#### **Highly Confident Errors of Details of the Suspect**

As previously mentioned, subjects were asked to give a confidence rating for each detail of the suspect's appearance as they were reported in each



**Figure 6.** Mean number of new errors of details recalled in the Reiser (n=23) and Standard (n=27) experimental conditions in trials 2, 3, and 4. (Bars represent the standard errors of the means).

of the four recall trials. Only those Errors of Details of the Suspect that were given a highly confident rating (confidence = four and five) were analyzed. The means for the Highly Confident Errors of Details of the Suspect ratings for both experimental conditions, the three levels of hypnotic susceptibility and the time factor, the four recall trials, may be seen in Table 10. In each case, the greater frequency of Highly Confident Errors of Details of the Suspect ratings occurred during hypnosis in Recall Trial 3.

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INSERT TABLE 10, ABOUT HERE

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Statistical analysis showed no significant effects for the between group variables (experimental conditions, susceptibility levels). However, the within group variable, the time factor, yielded a highly significant effect [ $F(2, 97) = 50.84, p < .0001$ ] (see Source Table in Appendix X).

Tukey Honestly Significant Difference Tests showed significant differences in the mean frequency of ratings of Highly Confident Errors of Details from Recall Trial 1 (first session) to Recall Trial 3 (hypnosis) [ $HSD(4, 132) = 15.11, p < .01$ ], from Recall Trial 2 (pre-hypnosis) to Recall Trial 3 [ $HSD(4, 132) = 15.39, p < .01$ ] and from Recall Trial 3 to Recall Trial 4 [ $HSD(4, 132) = 12.59, p < .01$ ]. None of the other comparisons showed a significant difference. These results indicate that it was Recall Trial 3 or the hypnosis condition that led to the greater mean frequency of highly confident errors. In addition, a much lower frequency of highly confident ratings of the errors is seen in the post-hypnosis recall in the final session one week later. These results may be seen in Figure 7.

**Table 10**  
**Mean Number of Total Highly Confident Errors of Details of the Suspect**  
**Recalled by Subjects According to Experimental Condition, Level of**  
**Susceptibility and by Time (Recall Trials)**

Recall Trials		Time							
		1		2		3		4	
Condition	n	M	SD	M	SD	M	SD	M	SD
<i>Reiser</i>	23	8.04	3.80	7.65	4.12	14.91	6.43	8.57	5.10
High	8	7.50	3.51	7.75	4.33	17.13	5.36	8.38	5.04
Medium	7	9.00	2.52	7.29	2.29	13.00	4.90	8.71	4.42
Low	8	7.75	5.12	7.88	5.46	14.38	8.43	8.62	6.28
<i>Standard</i>	27	9.37	4.06	9.48	4.96	15.70	6.09	10.96	4.52
High	10	10.60	4.97	10.90	6.66	18.60	6.87	11.60	5.40
Medium	9	7.44	2.60	8.56	4.10	15.67	4.50	10.67	3.57
Low	8	10.00	3.78	8.75	3.28	12.13	5.22	10.50	4.78
<i>Total</i>	50	8.76	3.96	8.64	4.64	15.34	6.20	9.86	4.90

**Note:** Recall trial 3 was taken during hypnosis.

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INSERT FIGURE 7, ABOUT HERE

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### **New Highly Confident Errors of Details of the Suspect**

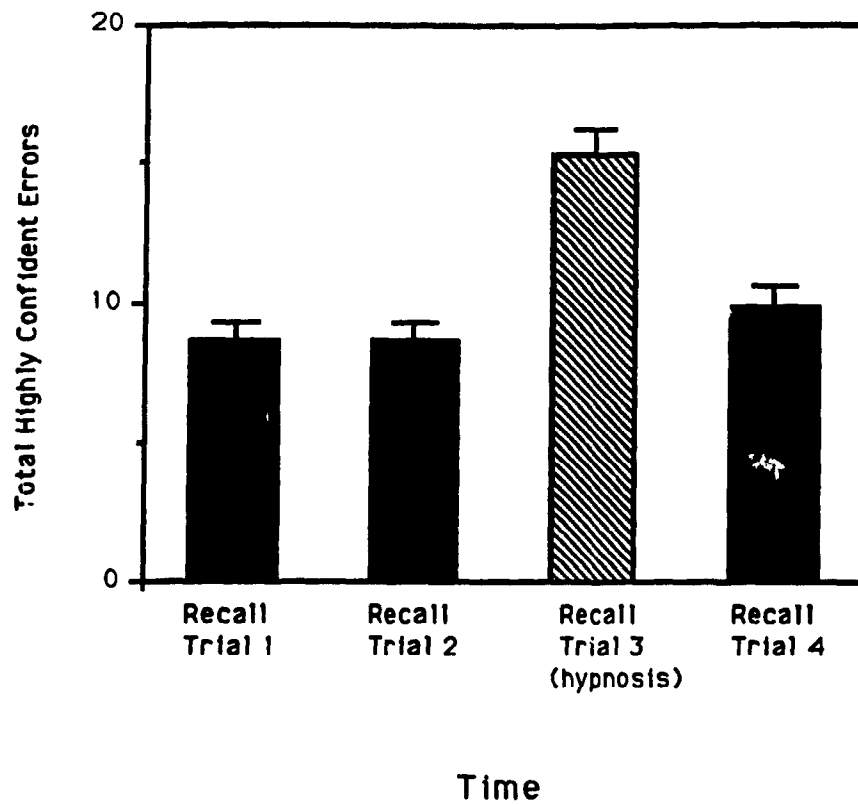
Once again, it was relevant to determine whether the frequency of highly confident ratings for Errors of Details of the Suspect occurred due to the repetition of ratings of the errors in subsequent recalls or whether these ratings also applied to New Errors of Details of the Suspect. Thus, the following analysis looked at the highly confident ratings (4's or 5's) for the New Highly Confident Errors of Details of the Suspect in Recall Trials 2, 3, and 4. The means for this data in both the Reiser and Standard experimental induction conditions, for the three susceptibility levels, high, medium and low, as well as for the repeated measures factor (Recall Trials 2, 3, and 4) may be seen in Table 11.

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INSERT TABLE 11, ABOUT HERE

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Statistical analysis using a 2 x 3 x 4 ANOVA revealed a significant main effect for the repeated measure factor, the Recall Trials [ $F(1, 65) = 29.16, p < .0001$ ]. Significance was not seen for any other main or interaction variables (see Source Table in Appendix Y). Post-hoc comparisons indicated no significant difference in New Highly Confident Errors of Details of the Suspect ratings between Recall Trials 2 and 3 (pre-hypnosis and hypnosis) and Recall Trials 2 and 4 (pre and post-hypnosis). There was a significant



**Figure 7.** Mean number of total highly confident errors of details recalled in trials 1, 2, 3, and 4 for the entire sample (N=50). (Bars on the histogram represent the standard errors of the means).

**Table 11**  
**Mean Number of New Highly Confident Errors of Details of the Suspect**  
**Recalled by Subjects According to Experimental Condition, Level of**  
**Susceptibility and by Time (Recall Trials 2, 3, and 4)**

Recall Trials		Time					
		2		3		4	
Condition	n	M	SD	M	SD	M	SD
<i>Reiser</i>	23	2.96	2.14	5.57	3.89	1.09	1.13
High	8	3.38	2.93	7.50	4.21	1.25	1.28
Medium	7	2.57	.98	3.86	2.48	.86	.69
Low	8	2.88	2.17	5.13	4.16	1.13	1.36
<i>Standard</i>	27	3.33	2.88	5.33	4.25	1.52	1.34
High	10	3.70	3.53	6.70	5.58	1.60	.97
Medium	9	3.22	2.49	5.89	3.33	2.11	1.62
Low	8	3.00	2.73	3.00	2.27	.75	1.17
<i>Total</i>	50	3.16	2.55	5.44	4.05	1.32	1.25

**Note:** Recall trial 3 was taken during hypnosis.



difference in the mean frequency of ratings of New Highly Confident Errors of Details of the Suspect between the hypnosis (Recall Trial 3) and post-hypnosis recalls (Recall Trial 4) one week later [ $F(3, 88) = 3.74, p < .01$ ] with fewer new highly confident ratings given in the final session. Overall, the pattern of distribution of the highly confident ratings of the new errors recalled in trials 2, 3, and 4 is similar to that seen in Figure 7.

### **"Don't know" Responses**

During the hypno-investigative recall procedure, subjects were routinely asked for information about certain aspects of the Suspect's wearing apparel, appearance, facial features, etc. which they had not already described in the free recall component of the session. Frequently, subjects responded to these requests for further description of the suspect by saying "Don't know"- a response which is indicative of uncertainty. If, as already demonstrated in this and previous studies, hypnosis increases confidence, it should also decrease uncertainty which would be indicated by a reduction of "Don't know" responses in hypnosis.

As one purpose of the study was to determine whether or not a hypno-investigative procedure would enhance recall, it was thought to be important to follow these "Don't know" responses and see whether they would be replaced during hypnosis (Recall Trial 3) by either errors or correct recall of the details of the suspect's appearance. Accordingly, an analysis was made on the total "Don't know" Responses in all four recall trials and on the New "Don't know" Responses in Recall Trials 2, 3, and 4.

### **Total "Don't know" Responses**

The means for the Total "Don't know" Responses as reported by subjects by experimental condition and susceptibility level in the four Recall Trials are presented in Table 12. In all instances, the smaller mean number of

"Don't know" Responses tended to be reported in Recall Trial 3 during hypnosis.

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INSERT TABLE 12, ABOUT HERE

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These data were, therefore, analyzed in a  $2 \times 3 \times 4$  ANOVA. The analysis showed a significant main effect for the repeated measure, that is, the time variable of the four Recall Trials [ $F(2, 110) = 26.16, p = <.0001$ ], but no other significant main or interaction effects (see Source Table in Appendix Z). Post-hoc comparisons indicated that there was a significant difference in the Total "Don't know" Responses from the first to the hypnosis recall trial (Recall Trials 1 and 3) [ $HSD(4, 132) = 10.32, p < .01$ ], from the pre-hypnosis (Recall Trial 2) to hypnosis recall (Recall Trial 3) [ $HSD(4, 132) = 11.39, p < .01$ ] and from the pre to post-hypnosis recall (Recall Trials 2 to 4) [ $HSD(4, 132) = 4.58, p < .01$ ]. The slight difference between the initial and second recalls (Recall Trials 1 to 2) did not reach statistical significance. There was a significant difference though in the Total "Don't Know" Responses from the hypnosis recall trial (3) to the final recall trial (4) [ $HSD(4, 132) = 6.82, p < .01$ ].

Overall, the mean number of "Don't know" Responses was least during hypnosis (Recall Trial 3) as can be seen in Figure 8. This figure shows an inverse pattern for the "Don't know" responses as compared to the pattern seen in Figure 2 for the total correct details of the suspect and in Figure 5 for the total errors of details of the suspect. It should be noted that, in both Figures 2 and 5, the greater mean number of correct and errors of details of the suspect also occurred in the hypnosis condition. A possible explanation for this may be that some of the "Don't know" Responses, which seem to have disappeared during hypnosis, may have been replaced by new recall of

**Table 12**  
**Mean Number of Don't Know Responses Reported by Subjects According to**  
**Experimental Condition, Level of Susceptibility and by Time (Recall Trials)**

Recall Trials		Time							
		1		2		3		4	
Condition	n	M	SD	M	SD	M	SD	M	SD
<i>Reiser</i>	23	3.52	2.91	4.04	2.69	1.30	1.61	2.44	2.11
High	8	2.38	1.85	3.63	2.00	.50	.76	2.13	.99
Medium	7	3.71	3.20	4.29	3.04	1.86	1.86	2.86	3.29
Low	8	4.50	3.42	4.25	3.42	1.63	1.85	2.38	1.85
<i>Standard</i>	27	3.33	2.66	3.50	2.70	1.30	1.64	2.93	2.50
High	10	3.00	2.63	3.10	2.92	1.00	1.89	2.50	2.84
Medium	9	3.78	2.99	3.33	3.08	1.00	.87	2.78	1.92
Low	8	3.25	2.61	3.50	2.27	2.00	1.93	3.63	2.77
<i>Total</i>	50	3.42	2.75	3.64	2.69	1.30	1.61	2.70	2.32

**Note:** Recall trial 3 was taken during hypnosis.

either correct or incorrect (errors) details of the suspect (see Figure 8).

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INSERT FIGURE 8, ABOUT HERE

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### **New "Don't know" Responses**

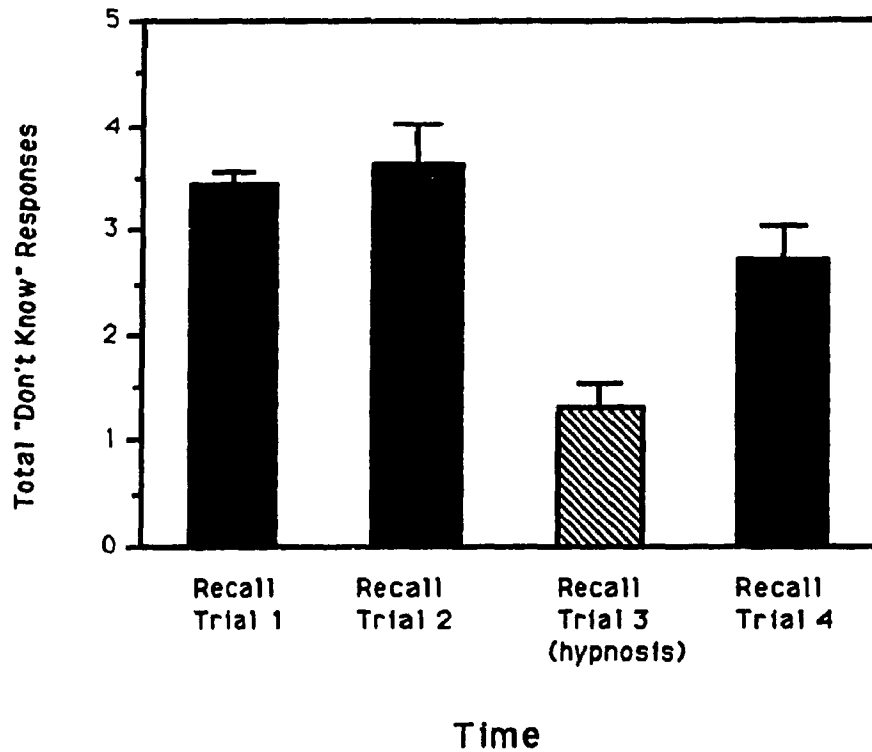
Since all subjects reported a smaller number of Total "Don't know" Responses during hypnosis, the next analysis was performed to see whether this pattern would also apply to the New "Don't know" Responses in Recall Trials 2, 3, and 4. These data, for the two experimental induction conditions and the three susceptibility levels, are shown in Table 13.

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INSERT TABLE 13, ABOUT HERE

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A  $2 \times 3 \times 3$  ANOVA revealed a significant main effect for the repeated measures factor, the Recall Trials ( $n = 49$ ) [ $F(2, 70) = 30.54, p < .0001$ ]. No other significant main or interaction effects were found (see Source Table in Appendix A<sub>1</sub>). Post-hoc comparisons indicated that there was a significant difference in New "Don't know" Responses from the pre-hypnosis (Recall Trial 2) to the post-hypnosis recall (Recall Trial 4) [ $HSD(3, 86) = 8.32, p < .01$ ] and from Recall Trials 2 to 3 (pre and during hypnosis) [ $HSD(3, 86) = 10.26, p < .01$ ]. As both Recall Trials 2 and 3 were held in the same session (Session II), this difference of a marked reduction in the mean frequency of New "Don't Know" responses during hypnosis (Recall Trial 3) is of considerable interest. Although there was an increase in the mean number of New "Don't Know" Responses reported in Recall 4, one week after the hypnosis recall (Recall



**Figure 8.** Mean number of total don't know responses reported by subjects in recall trials 1, 2, 3, and 4 for the entire sample (N=50). (Bars on the histogram represent the standard errors of the means).

**Table 13**  
**Mean Number of New Don't Know Responses Reported by Subjects**  
**According to Experimental Condition, Level of Susceptibility and by Time**  
**(Recall Trials 2, 3, and 4)**

Recall Trials		Time					
		2		3		4	
Condition	n	M	SD	M	SD	M	SD
<i>Reiser</i>	22	1.44	1.20	.44	.21	.39	.58
High	8	1.75	1.28	.00	.00	.63	.74
Medium	6 <sup>a</sup>	1.00	1.16	.00	.00	.00	.00
Low	8	1.50	1.20	.13	.35	.50	.54
<i>Standard</i>	27	1.00	1.04	.23	.51	.33	.83
High	10	.89	1.05	.22	.67	.22	.44
Medium	9	.89	1.05	.11	.33	.33	1.00
Low	8	1.38	1.06	.38	.52	.38	1.06
<b>Total</b>	49	1.20	1.13	.14	.41	.36	.72

**Note:** Recall trial 3 was taken during hypnosis.

<sup>a</sup> Missing data for one subject.

Trial 3), this difference did not reach statistical significance [ $HSD(3, 86) = 1.94$ , n.s.]. Overall, the pattern of results for this analysis is similar to that seen in Figure 8.

### **Experiential Analysis Technique (EAT) Interviews**

After hypnosis had been terminated, all subjects were interviewed by an independent experimenter, Dr. Campbell Perry ( $E_2$ ) using a modified Experiential Analysis Technique (EAT), devised by Sheehan, McConkey, and Cross (1978; see Sheehan & McConkey, 1982). In the usual application of this procedure, subjects watch a replay of the videotape, and are instructed to stop it at the various points where they wish to comment upon their subjective experience. In the modified procedure, the videotape is stopped by the independent interviewer at pre-selected points in an attempt to obtain standardization of both the segments of the session discussed and of the questioning.

In the present study, subjects were questioned about their experience of arm levitation, arm rigidity, and of the suggested videotape room. The answers to these questions were not analyzed as they served, primarily as a "warm up" prior to asking three questions that were of greater interest. These were 1) what effect, if any, did hypnosis have on your recall?, 2) what effect, if any, did hypnosis have on your confidence?, and 3) what was the effect of the "zoom-in" instruction? (Reiser condition only). The answers to these questions were audiotaped.

In two cases, the audiotape ran out before the questions of interest were asked and in a further seven cases,  $E_2$  forgot to ask one of these three questions. In the following sections, the responses of subjects to each question are summarized and typical comments quoted verbatim. These data, therefore, are derived from a total of 48 subjects (17 high, 15 medium, and 16 low susceptibles) across the two experimental conditions (Reiser and

Standard) who provided analyzable EAT data for the three questions of interest. For each question, the number of failures to ask a particular question are noted.

1) What effect, if any, did hypnosis have on your recall?

Of the 17 high hypnotizables in the two conditions, 13 (76%) reported increased recall with hypnosis, a further 3 (18%) were uncertain, and the remaining subject rated recall with, and without, hypnosis as much the same. By contrast, only 4 (27%) of the 15 medium hypnotizables reported increased recall, 4 (27%) thought they had recalled a little more, 3 (18%) were uncertain, and the remaining 4 (27%) subjects thought they had not recalled any additional material in hypnosis. The medium hypnotizables were also more likely to spontaneously comment on their concern that the new material was simply imagined.

For the 16 low hypnotizables, the majority [10 (62%)] felt that hypnosis had not added any new detail. A few subjects, [3 (19%)] reported that they had recalled a few new details in hypnosis and the remaining 3 (19%) were uncertain.

High Hypnotizables

Most, though not all, of the new details reported in hypnosis by the high hypnotizables involved central details of the suspect's appearance. For instance, Subject 13 reported that "I saw that he was smoking, and I don't know, I never saw that before." When asked how confident he was of this detail, he reported that "I was pretty sure. It was new in the sense that I didn't think of it before." Then again, Subject 49 reported that "I know I said he had a mole on his face, I may have said that on the first recall, but this time it was very clear. I also seemed to see details better, like I could see he was unshaven a bit, and I seemed to sense what his eyes were like. I remember seeing his eyes, although I'm not sure that was possible because



I'm sure he had glasses on....I was always more confident at the moment, but always knowing that I could be making it up, but I didn't care because I felt very confident."

Some subjects while reporting new material also expressed uncertainty as to its validity. For example, Subject 33 stated that "I wasn't positively sure; I had my doubts also. Like I was seeing another face; it wasn't really him." Perhaps this uncertainty arose from the new details reported because this subject said that "I recalled acne all over his face." On the other hand, Subject 10, when asked about added details in hypnosis, reported that "I was hoping for rings on the man's finger, or a watch, or a distinctive scar. I saw a small mark, but I'm not sure if he had it or not." In a similar vein, Subject 20 stated "I don't know if a better description because there were a few things I didn't mention again, because I mentioned them previously. But I had a better feeling of the guy ... what he was like."

A feature of the recall of high hypnotizable subjects was that sometimes the additional material was difficult to evaluate. The new details were as equally consistent with the oft-reported filling in of memory gaps with material that might be plausible as with an increase in attributional material, (that is, information that was qualitative and difficult to rate in terms of correct versus incorrect). An example of this was that some subjects felt that they 'knew' the subject better. Another, Subject 34 reported that "I think I said things that might not have been there, but just... I've seen other bad guys. Like I said a big scar on the cheek and the silver tooth, and things like that. I don't know whether that's true or not, but that's the thing I got after being hypnotized. I started seeing more things." When asked whether his memory was improved in hypnosis, he reported that "I remembered more, but I don't know if it was right. Whether I brought in stuff that wasn't there. Like it definitely generated more ideas."

Other examples of plausible confabulations follow. "He had a chubby

wide fat face, and he was wearing a checkered brown shirt... He had, I believe long straight hair," (Subject 29). "When you first see, it's fresh in your mind so you have a tendency to remember a lot of things. And this week, when I came back, some of the questions 'I can't remember this.' I couldn't even remember the guy. To me, under hypnosis, it just came right back to me.....Something I didn't see, I think his chin, I kind of saw something at the cleft of his chin. I had never noticed that before," (Subject 40). By contrast, Subjects 33 and 37 added peripheral non-existent details; the former reported that "I felt that I could hear sounds, like cars, etc.," while the latter indicated that "I also saw a monument I hadn't seen."

At the same time, there was, in some subjects, an interesting discrepancy between subjective experience and conviction that the experience was real. For example, Subject 12 reported that "I find myself saying things like she had a yellow sweater, and then I say but did I really see that? And I feel that I'm making it up at that point when it becomes too precise." When asked whether she had obtained a better identification of the subject, she replied that "I think so, like I had a better picture of him than I had otherwise .... because I was seeing him, I felt like I knew him. In hypnosis it becomes vivid like you were there."

#### **Medium Hypnotizables**

Subjects in this group expressed more uncertainty as to whether they had imagined the additional details they reported. Subject 6 stated : "I don't know if it helped me, or whether I imagined things. I don't know if they were really there." Subject 14 similarly reported: "Actually I was even wondering if I was imagining extra details that I wasn't really sure were on the slides..... Things like his facial features, like I was describing sideburns, and the structure of his face, and I can't be too sure it's what I actually saw. But it seemed to fit, so I said it."

Subject 43 provided the most detailed report of the dilemma of

distinguishing fantasy from reality. He stated: "Something was always in the back of my mind; I was worried about whether I was seeing what I saw or what I remember. That bothered me. Because I was starting to do an almost association sort of thing. Like I then remembered that he was wearing cowboy boots. But am I just associating cowboy boots with the jeans I'm seeing, and the hat? I saw them much more vividly; things seemed to be much clearer. What I wasn't sure of before became a bit more sure, but still with nowhere near full confidence." When asked whether hypnosis had provided more details, he replied: "I remembered a lot to start with. And I'm wondering if I'm just reinforcing my memory now. I created a picture in my head, and I don't know how near it is to reality any more. That's scary, because someone can be sentenced because of what I'm saying."

When asked if recall was better in hypnosis, subjects provided answers such as "It seemed to give me more details. I don't know whether it was imagination or not, but really the picture presented to me in my mind was more clear and sudden details come in. Last time, I didn't realize the background; there were cars, parking meter. This time the background became more vivid," (Subject 3). However, the new details they reported tended to be more peripheral with only two of them being certain they had obtained a better picture of the suspect's face. Subject 47 said he found hypnosis useful for identifying the colour of the suspect's shirt. He stated: "Like the shape of the woman she first met on the street. Like after she had been robbed, she cried to the two women, and I remember that one was wearing a white jacket," while a question concerning additional details of the suspect elicited "Yeah, the shirt he was wearing. I was not sure whether it was white or grey, but I was thinking it was a light colour not a dark colour."

At the same time, these subjects added these new peripheral details in a confident manner. As indicated already, Subject 3 recalled a more vivid background of cars and a parking meter. Subject 7 reported "It helped me to

remember some odd details like the fact that the first lady was in the street... she was walking, and there were cars. I remembered that there were two streets, and the sun was on one part. I improved myself, but not on the things she ( $E_1$ ) asked me. Maybe hypnosis helped me remember details I would not have talked about, just because she ( $E_1$ ) would not have asked me ..... Under hypnosis, I felt more relaxed, and I guess I remembered a lot of things that I would not have said. I remembered that one woman had glasses, but she ( $E_1$ ) did not ask me."

By contrast, Subject 5 reported both a minor central detail and a peripheral detail concerning the female victim. He reported: "I said that the man took the wallet from the purse with his right hand, whereas before, I had not said that. I mentioned that she had her bag on her left shoulder, which I had not said before. The belt that the man was wearing." Subject 6's report was similar. She stated: "There were things I couldn't see when I was not under hypnosis. Like he had his hands in his pocket. On the corner of the street, there was a tavern, and I just could not remember that until this week." In addition, Subjects 14 and 46 provided additional minor details about the suspect. These were: "I don't think I remembered anything of significance, except that the man was wearing a jacket where he put the wallet. But other than that, everything was just about the same. It wasn't all that different to when I remembered out of hypnosis," (Subject 14) and "there was one thing. It was a watch," (Subject 46).

### Low Hypnotizables

Most of the reports of the low hypnotizables were either that they recalled nothing new in hypnosis, or else they reported details unmentioned in previous sessions but which they had nevertheless not forgotten. Of the few who did add new information the details tended to be peripheral. Subject 17 reported that he "remembered a lot of things, and more of the surroundings. It didn't even occur to me to mention the street they were on,

and the building that was next to them, and the ladies that were across the street." Subject 41 reported being able to picture the suspect better but not to describe him better. Nevertheless, he reported "his shoes, and new details about his mouth or whatever. And his cheekbones and his chin, his eyebrows." In addition, this subject was the only low hypnotizable to report what appeared to be a confabulated report of the subject's appearance. He said: "I found I was more relaxed, and I could concentrate on what I was thinking. I remembered a few extra things, like a ring on his hands and a scar on his face." These subjective data must, of course be considered in the light of the confidence ratings of the subjects.

**2) What effect, if any, did hypnosis have on your confidence?**

Data for the confidence ratings for the hypnosis recall were equivalent, in most respects, to what was found for the earlier question concerning the recall of new details. Again, 13 (76%) of the 17 high hypnotizables rated themselves as more confident, with 5 expressing some reservations. An additional 2 (12%) of the high hypnotizable subjects said they were no more confident in hypnosis, one reported confidence as about the same in and out of hypnosis, and E<sub>2</sub> forgot to ask this question of one subject.

For the 15 medium hypnotizables, 6 (40%) reported enhanced confidence, one with reservation, and 4 (27%) reported no change in confidence. For the remaining 5 medium hypnotizable subjects, E<sub>2</sub> forgot to ask this question of 3 of them, and the tape ran out before the question was asked in the other 2 cases. For the 16 low hypnotizables, 4 (25%) reported greater confidence, 3 (19%) reported equivalent confidence, and the remaining 9 (56%) reported either no increase or that they were uncertain. Again, a sample of representative responses to this question is provided for each of the three levels of hypnotizability.

### **High Hypnotizables**

Most of the subjects who answered in the affirmative to the question were unequivocal in their answer. They answered with a "yes" and did not elaborate further. However, as indicated earlier, five of them expressed some reservations. Subject 20 for instance, reported "Yeah, about certain little descriptions. I also felt that I knew him better." In a similar manner, Subject 29 responded to this question by saying "Of what I had already said yes, but of the new things I wasn't sure." Subject 34 appeared to be more confident only for an additional, non-existent detail; her reply to this question was: "While I was doing it I said three. I think I said five on the scar, because it just seemed really clear that there was a scar there. " She added that "I don't think that (hypnosis) lowered (confidence) at all. I think it increased. It's hard to say." On the other hand, Subject 49 posed a similar dilemma to that encountered with the first question stating that "I was always more confident at the moment, but always knowing that I could be making it up, but I didn't care because I felt very confident."

By contrast, Subject 11 stated "I feel more confident about the general feature, but when you ask me for details, I'm saying, did I really see this? Like I don't know where it came out that I saw a yellow sweater, because previously I hadn't remembered it. That's why I don't trust it."

### **Medium Hypnotizables**

The confidence ratings of the medium hypnotizables were more variable than was found for the high hypnotizable subjects. Only Subjects 14 and 32 reported being more confident for both previously recalled information and for new items. Others tended to qualify their degree of confidence by saying, for example, "when it was the recall without hypnosis, I remembered a lot of details from last week, but I was not perfectly sure. When I did the hypnotized part, I was more sure, not 100%, but 80-90% sure. And I have seen some details that I wasn't able to see -- because I was able to

visualize it." (Subject 14). Subject 43 stated that "What I wasn't sure of before became a bit more sure, but still with nowhere near full confidence."

### **Low Hypnotizables**

While there was increased confidence for several of the low hypnotizables, the most common reaction was either of no increase in confidence or of uncertainty. Subject 16 reported increased confidence for a non-existent detail. She stated that "Yes, overall I think my ratings changed more under hypnosis. I felt surer about what I was saying about the slides than when I wasn't hypnotized." When asked about the added detail, she replied "That he had hair on his chest. And I think he was wearing something on his wrist. Apart from that, I don't think that I remembered anything that I hadn't reported previously." On the other hand, Subject 25 reported that "No. Actually I felt more confused because I wasn't seeing ... it was blurred. I remembered what I had said before." Subject 1 also reported that "basically I was repeating the same things over." Similar reports were provided by Subjects 21 and 35. The former stated that "I'm not too sure. In some cases, I think I was a little higher in my ratings, but overall maybe my ratings were a little higher than my initial recall ratings. Not much change." Subject 35 answered by saying: "Not about everything, no. I still couldn't picture his sideburns."

### **3) What was the effect of the "zoom-in"?**

Subjects of all levels of hypnotic susceptibility in the Reiser experimental condition made comments which indicated that they felt the 'zoom-in' suggestion asked them to engage in fantasy. This response is not unexpected, given that instructions to "zoom-in", freeze the frame and obtain an enlargement are really instructions to perform the impossible.

### **High Hypnotizables**

Despite the explicit instruction for fantasy and invention inherent in

the "zoom-in" instructions, less than half (3 of the 7) of the high hypnotizables felt that they obtained more detail. In one case (Subject 37), the additional detail was clearly confabulatory in nature as the subject now saw acne all over the suspect's face. Subject 9 reported that it "made the face a bit clearer," and felt that this procedure assisted him in remembering more detail. Subject 10 also reported more details during the "zoom-in". She said "Mostly I felt that I could see a few wrinkles where I hadn't seen them before. I could see his ears a little better."

By contrast, Subject 13 was not certain that the "zoom-in" provided new details, other than one which she questioned. She stated "The face was really big. The only close-up I could get, he was smiling. It did not seem right." A similar mixed picture was presented by Subject 20, who responded to a question about additional details on the "zoom-in" by saying "I don't think so. There was a couple I was not really sure of. Except his moustache more exactly ... his eyes more exactly." Subject 24 thought that "I really felt that I had this face closer up...I felt like I really saw the face clearer than before." This subject reported, also, that "I never got the images of his eyes....Even when I was zooming in, I didn't feel that I saw his eyes."

#### **Medium Hypnotizables**

There was missing data for three of the six subjects as E<sub>2</sub> forgot to ask a question about the "zoom-in" in two cases and the tape ran out for a third subject before this question was reached. In the remaining three cases, Subjects 4 and 48 stated that this procedure made memory clearer, but reported no new details. By contrast, Subject 47 reported the additional detail of one of the female witnesses wearing a white jacket.

#### **Low Hypnotizables**

The seven low hypnotizables in the Reiser experimental condition provided an interesting set of paradoxes. Some were able to imagine a "close-up" of the suspect's face while for others the procedure led to greater



uncertainty. Subject 15 obtained a "close-up" of the face and he reported that "It didn't really show me anything else that I didn't already know. It did raise doubts about one thing that I said previously, that he had a moustache with curled up ends. When I looked there, I didn't see it." On the other hand, Subject 25 reported that "I couldn't remember anything that I hadn't already, except the sideburns. Apart from, that, nothing. And I wasn't even sure about the sideburns." Subject 42 reported new details that she recalled as helping to identify the suspect better. She said "I just pictured his face on a big scale. Like a close-up. Yeah. It did help me. I noticed a scar, and the skin was a bit rough. Like he had acne when he was young. I didn't remember that before." Subject 23 reported a similar effect, but did not consider these details to add very much more. He said "at first I didn't know what his face was like. I noticed his nose, I had no idea about his ears, I know more about his hair." Subject 50, felt, also that the "zoom-in" provided a slight amount of extra detail, stating that "I got some flashes. I think I saw lines in his eyes and maybe a ring that I hadn't remembered before, but I'm still not sure."

### EAT Overview

These subjective data from the post experimental inquiry are intended to supplement the experimental data presented earlier. Indeed, a summary of the subjective report(s) of subjects of their hypnosis experience indicates strong support for the statistical findings of this study. The majority of subjects felt that they had recalled more information in hypnosis. The pattern of the subjective report, that is least (low hypnotizables) to greatest (high hypnotizables) enhancement of recall reflected that seen in the mean tables for the total correct and errors (Tables 4 and 8) of recall. Again, the pattern of subjective report of confidence in their recall, with high susceptibles feeling most confident, medium susceptibles feeling more but

not 100% confident, and low susceptibles experiencing little or no increase in confidence, reflected the experimental findings as seen in Tables 6 and 10.

The impact of the "zoom-in" suggestion in the Reiser experimental condition was subjectively experienced by high and low susceptibles as increasing the recall of details. This feeling once again reflected the experimental data as seen in Figures 3 and 6 where subjects in the Reiser experimental condition reported both more new correct and new errors of memory. Due to missing data, the subjective impact of this suggestion on medium susceptibles remains unknown.

It should be noted that during the EAT procedure that the subjects were not aware of what was correct or incorrect recall so that their subjective experience relates to the total recall which they had produced during the hypnosis session. The analysis of their subjective experiences indicated that much of the enhanced recall would be considered to be plausible confabulation as it consisted of details which might very well have been accurate such as the suspect had been smoking, had hair on his chest, had acne, or traces of acne, details of clothing, etc. Within the context of a police investigation, such plausible, but false details would, however, still be likely to hinder rather than help such an inquiry.

Secondly, it should be noted that subjects, at all levels of hypnotizability, described a certain degree of confusion, uncertainty, and lack of confidence in the accuracy of their recall. It is appropriate to report such reservations to an academic experimental researcher who routinely takes a confidence rating on the recall during the experiment and inquires as to the subject's subjective experience of the hypnosis session. However, in the context of a serious crime, where hypnosis is liable to be performed by an individual who believes in the 'truth telling' properties of hypnosis, such doubts and reservations may not be so eagerly solicited or volunteered by the victim or witness. Of even greater concern is the report of some subjects that,

despite knowing that they might have been confabulating, they "didn't care because I felt very confident" (Subject 49).

Both the experimental and subjective EAT data converge in suggesting that if hypnosis is to be utilized as an investigative procedure, it is mandatory for police to obtain independent, physical evidence of the truth or falsity of any new information obtained in hypnosis.

### **Prediction of the 'Error' Prone Individual**

To explore whether any of the variables describing subject characteristics could be used to predict the 'error' prone individual in the eyewitness situation, Pearson correlation matrices were first calculated on eight independent or predictor variables and the ten criterion or dependent variables concerned with the errors of details of the suspect in recalls 1, 2, and 3. The predictor (independent) variables selected were, 1) the visual acuity test (VAT), 2) the total score from the measure of absorption, that is, the Tellegen Absorption Scale (TAS), 3) the measure of hypnosis-like experiences, that is, the Personal Experiences Questionnaire: Form CA-79 (PEQ: CA 79), 4) the total score from the Preference for an Imagic Cognitive Style Questionnaire (PICS) which was used to assess the preferred thinking style of the subject, 5) the total error and 6) the total correct scores from the test of visual memory, the Revised Visual Retention Test (RBVRT Correct and RBVRT Errors), 7) the susceptibility measure, the Modified Version of the Stanford Hypnotic Susceptibility Scale: Form C (SHSS: C (Mod.)), 8) and the hypnotic procedure (HP) variable, that is, the Reiser or Standard experimental induction which the subject experienced for the first time in Recall 3 (see Appendix B<sub>1</sub> for the correlation matrix for the predictor variables) (see Footnote 4).

The criterion (dependent) variables were 1) the Total Errors of Details of the Suspect (TEDS) in Recalls 1, 2, and 3, 2) New Errors of Details of the

Suspect (NEDS) in Recalls 2 and 3, 3) Total Highly Confident Errors of Details of the Suspect (THCEDS) in Recalls 1, 2, and 3, and 4) the New Highly Confident Errors of Details of the Suspect (NHCEDS) in Recalls 2 and 3. Examination of the correlation matrix for the predictor and criterion variables revealed a strikingly small number of significant correlations indicating a lack of relationship between these variables. Only the scores on the predictor variable, the SHSS: C (Mod.), and the criterion variables, the total errors, new errors, and the total highly confident errors of details of the suspect in Recall 3 (TEDS Recall 3,  $r = .36$ ,  $p < .01$ ; NEDS Recall 3,  $r = .36$ ,  $p < .01$ ; and THCEDS Recall 3,  $r = .29$ ,  $p < .05$ ), show a significant correlation.

To determine whether a combination of these eight independent variables would improve prediction of the 'error' prone individual, multiple regression analyses were done. A hierarchical model was chosen as it allows the investigator to decide *a priori* the order in which each predictor variable or set of variables will be entered into the equation. For purposes of this study, the approach used was to enter as the first block, a set of variables (Block 1) considered to be subject characteristics which were less well known in terms of their 'theoretical' contribution to errors in eyewitness testimony. This was followed by the entry of a second block (Block 2) which included the major or more theoretically known set of predictor variables (Tabachnick & Fidell, 1983, p. 102 - 103). In this way, the contribution of the major set of predictors could be determined above and beyond the contribution of those in the first block.

A first set of hierarchical multiple regression analyses were performed in which the criterion variables (TEDS, NEDS, THCEDS, NHCEDS) were limited to Recalls 1 and 2 to determine whether or not the independent variables (subject characteristics) could predict the 'error' prone subject prior to his/her participation in the hypnosis procedure in Recall 3. For this initial set of analyses, the six predictor variables entered as Block 1 were the scores

from the VAT, TAS, PEQ: CA 79, PICS, RBVRT Errors, and RBVRT Correct. Block 2 contained only one predictor variable, the hypnotic susceptibility measure from the SHSS: C (Mod.).

Results of these analyses revealed no significant regression for any of the criterion variables in the first two recalls. In other words, the selected subject characteristics and hypnotic susceptibility, failed to predict the individual who would be more prone to making errors in eyewitness testimony in Recalls 1 and 2.

In the second set of analyses, the criterion variables remained the same as those previously described but were limited to the recall taken during the hypnosis procedure (HP), that is, Recall 3. Block 1 consisted of the same six predictor variables included in the initial set of regression analyses. Block 2 consisted of the two major predictor variables, the scores from the hypnotic susceptibility measure, the SHSS: C (Mod.) and the hypnotic procedure (Reiser vs Standard) in order to assess the unique contribution of these variables in predicting the errors and confidence ratings of the subject. Four hierarchical multiple regression analyses were carried out, one for each criterion variable (TEDS, NEDS, THCEDS, NHCEDS). There was no significant relationship between Block 1 and any of the criterion variables in Recall 3. Furthermore, in all but one analysis, the addition of Block 2 did not significantly increase the prediction of either errors or highly confident ratings of the errors of details of the suspect.

The results of the significant hierarchical multiple regression analysis for the criterion variable, New Errors of Details of the Suspect (NEDS) in Recall 3, may be seen in Table 14. The table presents the proportion of variance explained at each of the steps in the analysis and the associated F values for the  $R^2$  value as well as the standardized regression coefficients (Beta), correlations ( $r$ ), part  $r$  ( $pr$ ) and F test of significance for each of the variables within each block. It can be seen that the set of variables included in

Block 1 did not predict a significant proportion of the variance ( $R^2 = 0.13$ ). However, with the addition of Block 2, the combination of the variables accounted for a significant 37% of the variance [ $R^2 = 0.3683$ ,  $F(8, 41) = 2.99$ ,  $p < .01$ ] with the  $R^2$  change being 24% [ $R^2_{\text{Change}} = 0.2426$ ,  $F_{\text{Change}}(8, 41) = 7.87$ ,  $p < .001$ ].

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INSERT TABLE 14, ABOUT HERE

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Examination of the standardized regression coefficients (Beta) for each of the independent variables in Blocks 1 and 2 revealed that four of these variables made a significant unique contribution in explaining this proportion of the variance. These independent variables were the RBVRT Error and RBVRT Correct scores from the visual memory test, the SHSS: C (Mod.) and the HP variables (see Table 14). The results suggest that the individual who produced the greater number of new errors in Recall 3 tended to be the subject who underwent the Reiser experimental induction, scored higher on the SHSS: C (Mod.), that is, was more hypnotically susceptible, and had a lower error and lower correct score on the visual memory test, the RBVRT. Each of these predictor variables made a significant unique contribution to the prediction of new errors of details of the suspect in Recall 3, the hypnosis recall.

In conclusion, the results of this hierarchical multiple regression analysis suggest that, above and beyond the selected subject characteristics

**Table 14**  
**Hierarchical Multiple Regression of Predictor Variables on Number of New Errors of Details of the Suspect in Recall 3 (N = 50)**

<b>Dependent Variable</b>		<b>New Errors of Details of the Suspect</b>				
<b>Block 1</b>		<b>R<sup>2</sup> = .1257</b>		<b>F(6,43) = 1.03, p &lt; .42</b>		
<b>Predictor Variables</b>	<b>Beta</b>	<b>r</b>	<b>Part r</b>	<b>F(1, 43)</b>	<b>p</b>	
PICS	-.16	-.12	-.15	1.17	.29	
Visual acuity	.16	.08	.15	1.07	.31	
RBVRT # Error	-.89	-.04	-.28	3.73	.06	
TAS	.23	.05	.13	.84	.36	
PEQ: CA79	-.26	-.03	-.14	.98	.33	
RBVRT # Correct	-.88	.05	-.27	3.58	.07	

<b>Dependent Variable</b>		<b>New Errors of Details of the Suspect</b>				
<b>Block 2</b>		<b>R<sup>2</sup> = .3683</b>		<b>F(8,41) = 2.99, p &lt; .01</b>		
<b>Predictor Variables</b>	<b>Beta</b>	<b>r</b>	<b>Part r</b>	<b>F(1, 43)</b>	<b>p</b>	
PICS	-.19	-.12	-.19	2.26	.14	
Visual acuity	-.02	.08	-.02	.02	.90	
RBVRT # Error	-1.00	-.04	-.31	6.16	.02	
TAS	.22	.05	.11	.84	.36	
PEQ: CA79	-.25	-.03	-.14	1.19	.28	
RBVRT # Correct	-1.08	-.05	-.32	6.77	.01	
Hypnotic Procedure	-.36	-.24	-.29	5.58	.02	
SHSS: C (Mod.)	.43	.36	.35	8.05	.01	

which might, but were less well known in terms of their influence on eyewitness testimony, the hypnotic procedure the individual experiences and their level of hypnotic susceptibility are strongly related to the increased frequency of new errors of details of the suspect during the hypnosis recall. It would seem that certain characteristics of a person (such as absorption, visual acuity, the ability to have hypnosis-like experiences, and the preferred thinking style of the individual) may not be as salient in predicting the outcome of their eyewitness testimony without considering the combination of these characteristics with hypnotic susceptibility and a particular hypnotic procedure. In other words, over and beyond the effect of all these subject variables, the scores from the visual memory test (both correct and errors), the hypnotic procedure and hypnotic susceptibility turned out to be of predictive value.



## DISCUSSION

The primary purpose of the study was to determine the degree to which a specific hypnotic context would enhance accurate eyewitness recall. To this end, fifty subjects, male and female, of either high, medium, or low hypnotic susceptibility observed a series of slides of a street robbery and were randomly assigned to either the Reiser or Standard experimental group. The subjects recalled what they had observed via a combination free and investigative recall procedure in four recall trials, including one in hypnosis, over a two week period. To determine the type of eyewitness testimony obtained, the memories of the suspect's appearance were analyzed as to whether they were correct, incorrect or "don't know" responses for each of the four recalls. The respective confidence ratings were analyzed in a similar fashion for the correct and incorrect recall. In essence, the study examined the effects of the two experimental conditions; the three levels of hypnotic susceptibility (low, medium, and high); and the type of memories and confidence ratings for the eyewitness testimony reported by subjects in the four recall trials.

The overall finding in this study was that subjects recalled significantly more information during hypnosis regardless of the experimental condition and their level of hypnotic susceptibility. The overall pattern for total recall was that subjects remembered both more correct and more erroneous information and relinquished their previous "don't know" responses when hypnotized. The subjective experience related by the subjects in the EAT procedure also supported these findings with hypnotic susceptibility playing a greater role. Subjectively, high susceptibles felt they had experienced the greatest enhancement of their memory during hypnosis, followed by

approximately one quarter of the medium susceptibles, and only a few low susceptibles. In general, despite the use of a different experimental task, the results of the present study support similar findings of a hypermnesia effect for hypnosis in other research studies (Dwyan & Bowers, 1983; Nogrady, et al., 1985). In addition, a more recent study by Dinges et al. (1992) has further replicated this hypermnesia effect.

One might argue that the findings of this study merely reflect the impact of repeated recalls as it has been demonstrated, both with (Dwyan & Bowers, 1983; Nogrady, et al., 1985) and without hypnosis (Erdelyi, 1974; 1978), that increased productivity occurs with each repeated recall trial. Dwyan and Bowers (1983) observed a gradual build-up of information in nine waking recalls over a one week period which then doubled when subjects were in hypnosis. In the present study, a close examination of the mean number of total correct and total errors indicated that this gradual build-up did not occur as the recalled material either declined slightly in the second recall (one week later) or remained about the same. However, there was a significant increase in recall during hypnosis and particularly for errors of memory.

If the repeated recall factor had been solely responsible for the hypermnesia effect noted previously, then one would have expected to see a perhaps small but continued increase in productivity in the post-hypnosis trial. This did not occur and, indeed, if one looks at the means for the post-hypnosis recall (one week later) we see a significant decrease in total recall. The time delay from the original viewing of the slides might be one possible explanation for the loss of material. However, in each case, this decline in remembered information did not return to the original level obtained in either the initial or pre-hypnosis recall. This would seem to indicate that some of the material (correct and incorrect) which was recalled in hypnosis was incorporated into and retained in the lasting memory of the individual. Even in studies without hypnosis, it has been observed that errors of memory

may become confused with correct memories and reappear in later recall sessions (Roediger, et al., 1989). It is highly probable, therefore, that the same phenomena would also occur following hypnosis.

A further indication of the effect of hypnosis *per se* on recall can be seen when we follow the course of the "don't know" responses throughout the four recalls. The number reported, in this study, remained fairly constant for the pre-hypnosis trials, significantly decreased in hypnosis, and then significantly increased in the final recall but, again, never returned to the initial levels. Although the decline of "don't know" responses during the hypnosis recall had been observed in other applied studies (Mingay, 1985-86; Timm, 1985) there does not appear to have been an attempt to examine what happened to these responses in post-hypnosis recalls. The reappearance of some of the "don't know" responses could be the result of lost memories due to the time delay or possibly due to a more cautious, less confabulatory (errors) and realistic response when not hypnotized. The two week time delay in this experiment was extremely short when compared with the length of time that might be involved in a police investigation before an eyewitness would be asked to provide information on a particular event. Many of the previous "don't know" responses did not reoccur. This, once again leads to the speculation that some of the new information reported in hypnosis has been retained in the post hypnotic memory of the individual and has replaced the "don't know" responses.

Examination of the 'new' material obtained after the initial recall trial, revealed that a significant interaction effect occurred between the experimental inductions and the third recall trial, the hypnosis recall. On the surface, the Reiser experimental induction appeared to have the advantage for retrieving 'new' correct memories over the Standard experimental induction. Subjects in the Reiser condition made more correct responses on the Revised Benton Visual Retention test while those in the Standard group

obtained lower correct scores. Furthermore, their participation in the Standard experimental induction did not enhance 'new' correct recall at all. At first glance this gain appears to reflect the greater visual retention capacities of the Reiser subjects. However, as there was no significant correlation between the visual retention test scores, for either group, and any of the dependant variables this explanation seems unlikely. It should be noted, however, that other researchers have also found that little 'new' correct information is obtained with repeated recalls and, indeed, may actually decrease in hypnosis (Dinges, et al., 1991).

Numerous experimental studies have compared the effects of various approaches used to obtain the recall or memories. Methods such as free recall (Lytle & Lundy, 1988; Roediger, et al., 1989; Sheehan, et al., 1991), multiple choice (Lytle & Lundy, 1988), forced recall (Dinges, et al., 1992; Whitehouse, et al., 1988), and combinations of free recall and a narrative questionnaire (Timm, 1985) or structured questions (Sheehan, et al., 1991) have been examined. The present study attempted to mimic the field setting of a police eyewitness interrogation by using a systematic recall procedure which consisted of both a free recall and routine questions on details of the event and of the suspect's appearance. The end result was similar to the findings of the other studies. Regardless of the recall method used for the hypnosis recall, subjects reported more errors of memory with higher confidence ratings and, particularly so if the subject was a high susceptible. It is of further interest in the present study that, despite using the same recall procedure for each group, subjects in the Reiser experimental condition on average produced more errors of memory.

The type of wording and instructions used in the respective inductions may also have played a role as the Reiser induction certainly placed greater demands on the subject to produce material in hypnosis of which some was liable to be correct. Simply changing a word from 'the' to 'a' has been found

(Putnam, 1979) to influence the outcome of recall in hypnosis. Therefore, one might expect that a strongly worded and authoritarian package such as the Reiser induction could also be quite influential. To examine this more closely, a replication of the present study might consider combining the imagery of the Reiser TV memory metaphor with the more neutral tone and permissive wording of the Standard induction. This would permit a comparison of the effects of such an induction with those found in the present study and help to determine whether the imagery or the tone is more salient in producing errors of memory.

Of further interest, is the finding that there was a significant decrease, for both conditions, in 'new' correct recall in the final session well below the level of the pre-hypnosis testimony. This could possibly be a reflection of a subject's prior expectations and beliefs regarding hypnosis and memory enhancement. Future research studies might consider including a pre-experiment questionnaire regarding common beliefs and expectations of hypnosis, including those concerned with memory, in order to assess this factor more closely.

With the use of more conservative degrees of freedom, the interaction effect between the experimental conditions and the recall trials for 'new' errors of memory was close to but not statistically significant. However, it is interesting that, regardless of hypnotic susceptibility and experimental induction, all subjects made more 'new' errors during the hypnosis recall. Despite the Reiser group having the advantage of better visual retention skills (RBVRT), the mean number of 'new' errors derived in the Reiser experimental induction was much greater than for the Standard group. Once again, the more authoritative, demanding context, combined with the suggested imagery of the Reiser experimental induction, may perhaps have contributed to this as subjects tried to meet the suggested expectation that hypnosis would improve memory.

Furthermore, all subjects in the Reiser experimental condition reported in the EAT procedure that the "zoom-in" suggestion asked them to engage in fantasy. However, approximately half of the high susceptibles said this suggestion made objects seem larger and they could see more details. Some of the medium susceptibles felt it made things clearer and even some of the low susceptibles felt it provided new details of the suspect. It is interesting that, even in the face of what they considered to be a preposterous suggestion in the Reiser induction, the subjects still reported having responded to it.

In contrast, the more neutral statements, that is 'maybe it will or maybe it won't, in the Standard experimental induction may have either reduced a subject's expectation of memory improvement with hypnosis or eliminated some of the pressure for subjects to produce new material in hypnosis. Furthermore, although there was a marked reduction in 'new' errors in the final recall for both groups, the decrease was of greater magnitude for the Reiser group. Once again, this appears to indicate that without the contextual demands of the Reiser induction, a subject may be less inclined to produce 'new' information including errors.

In the forensic setting, witnesses are typically asked to give several waking and hypnosis eyewitness accounts of an event but are not necessarily required to participate in a post-hypnosis recall. Transcripts from the initial and hypnosis recalls, depending upon the province or state, could be admitted into evidence without the hypnoinvestigator and/or judge and jury knowing that much of this supposedly accurate 'new' information obtained in hypnosis will either not be retained or much that is retained will be erroneous. In an experimental study it is possible to track a subject's recall prior to, during, and following hypnosis. It is also possible to determine whether the recall is made up of correct, incorrect, "don't know" responses, and/or new or cumulative memories as the experimenter knows the correct

description of the suspect. In the 'real life' situation, the identity of the suspect and details of the event are unknown. For purposes of this study the analysis of the recall was limited solely to the description of the suspect. In future studies, a close examination of the peripheral and attributional detail reported by subjects should also be made as witnesses are frequently considered more credible by the courts if they give a more detailed account of the incident or suspect under question (Odgers, 1988).

Within the legal world, the more confident and convinced an eyewitness appears the more likely the judge and jury will be assured that the witness's testimony is accurate whether that is actually the case or not (Margolin & Coliver, 1983; Odgers, 1988; Orne, 1988; Perry & Laurence, 1990; Wagstaff, 1988). This could, of course, lead to dire consequences for the defendant. Consequently, an investigation of the confidence ratings assigned to an individual's recall is extremely important. In the present study, a similar pattern to that seen for the total correct and incorrect recall emerged for the confidence ratings. That is, subjects gave significantly higher confidence ratings during hypnosis than in the waking recall trials and, particularly so for errors of memory. These findings both confirm and/or have been replicated by other researchers for both applied and experimental studies on hypnosis and memory (Dinges, et al., 1992; Mingay, 1985-86; Nogrady, 1984; Putnam, 1979; Sheehan, 1988b; Whitehouse, et al., 1988).

In the EAT procedure, the majority of subjects also reported that during hypnosis they experienced an increase in confidence in their recall. This was particularly so for high susceptibles although several medium and low susceptibles also had the same increased feeling of confidence for the general recall of the event while hypnotized. However, subjects felt less confident about their memory for specific details. Some even felt they may have been making up memories and, as one subject said "I didn't care because I felt very confident." This subject's report gives rise to a certain amount of concern as,

in the legal situation, witnesses are not routinely asked to report confidence levels and/or to comment on their thoughts and feelings about the hypno-investigative experience. They simply appear in court, give their eyewitness testimony with confidence, and, perhaps due to the myths about hypnosis and memory (Orne, 1988) may not be challenged as to how confident they feel about the 'truth' of their hypnotic testimony. The end result is that the jury and judge become as convinced as the witness is convincing (Odgers, 1988; Orne, M., et al, 1990; Udolf, 1990; Wagstaff, 1988).

It is interesting to observe, for both the total and 'new' correct memories or errors of memory, that the highly confident ratings declined significantly in the final recall session. It should also be noted that the decrease in the highly confident ratings of errors of memory was much greater than the decrease observed strictly for the errors of memory. This could possibly mean that, although erroneous memories may be retained following hypnosis, subjects are much less confident about the accuracy of these memories and give them a lower confidence rating. Two studies (Sheehan, et al., 1991; Yuille, 1982) have found that, although more pseudomemories were reported in hypnosis by high susceptibles, they were assigned lower confidence ratings. Dinges and colleagues (1992) have found that 'new' confident errors tended to decrease over time except for high susceptibles.

In addition, in this study, during the EAT procedure, many subjects subjectively felt concern, uncertainty and a lack of confidence in the accuracy of their recall. One subject admitted that this sensation of confidence in combination with uncertainty about the facts was "scary because someone can be sentenced because of what I'm saying." This element is also 'scary' for the experimenter who appreciates that in the experimental situation, as compared to the forensic, there is very little personal motivation for the subject (witness) to falsify information in order to 'get' the criminal (Gravitz,



1985). Also there is little pressure from an experimenter for the subject to help the investigation by telling the 'truth' *per se*. If so much uncertainty exists in the subject (witness) in the laboratory situation then it is highly likely that this uncertainty is present in the forensic situation as well.

Many studies have found that confidence ratings are significantly higher during hypnosis. This increases the likelihood that errors retained following hypnosis will also be reported with confidence by witnesses who have undergone a hypno-investigation. A process which may lead to what has been labelled 'memory hardening' by some legal courts (Laurence & Perry, 1988). Therefore, in future studies on hypnosis and memory, it would seem relevant to follow the course of confidence ratings over a series of recalls, and particularly for those following hypnosis. This would help to determine whether the ratings for hypnotically obtained material diminish over time, whether this occurs for all material recalled or only for errors, and/or whether the confidence generated by hypnosis endures and can withstand the pressures of cross-examination. In the forensic situation, the inclusion of confidence ratings as part of each eyewitness report could help to ensure that material with fluctuating ratings is not accepted as veridical and, therefore, is investigated more thoroughly.

High hypnotizability has appeared as a primary factor for increased correct and incorrect recall as well as higher confidence ratings in many studies (Dinges, et al., 1992; Mingay, 1985 - 86; Nogrady, et al., 1985; Putnam, 1979; Sheehan, 1988b; Timm, 1985; Whitehouse, et al., 1988). In contrast, the results of the present study do not identify hypnotic susceptibility levels as the main culprit. One of the principal criticisms of applied studies (Watkins, 1989) has been that researchers have limited their eyewitness sample to a comparison between high and low susceptibles even though the majority of the public fall within the medium susceptibility range. As this is the first study of its type to include medium susceptible subjects, this may account for

the non-emergence of a significant effect for high hypnotic susceptibility. Upon closer examination of the recalled details of the suspect it can be seen that, although not statistically significant, there is a consistent tendency for high hypnotizable subjects in both experimental conditions to produce more memories and to assign them higher confidence ratings.

Perhaps more interesting to observe is the unexpected finding that low susceptible subjects ranked second in terms of correct, incorrect and highly confident ratings in the Reiser experimental condition. These findings may be a reflection of the highly suggestive and contextual demands inherent in that induction. In the Standard experimental condition, there is little or no difference between the medium and low susceptible subjects for the amount of correct recall and the corresponding confidence ratings. However, for errors of memory, this picture reverts to the more usual pattern which is that high and medium susceptible subjects tend to produce more errors than the lows. Future research should further examine the impact of these two experimental inductions on subjects of high, medium and low hypnotic susceptibility. All subjects could experience both hypnotic inductions. Following each induction subjects could complete a detailed post-experimental questionnaire designed to evaluate and compare the effect of the wording, contextual demands and specific suggestions on their memories obtained during these inductions.

Aside from the hypnosis component of a hypno-investigation, the witness brings certain characteristics of themselves into the situation. Therefore, the second purpose of the study was to determine whether such characteristics can predict the outcome of their eyewitness testimony. For practical purposes, if investigators knew the criteria by which one could predict the 'error prone individual', it might have considerable impact on the type of investigative procedures that would be used with eyewitnesses. To this end, the present study examined the relationship(s) between the errors of

recall and their respective confidence ratings with eight predictor variables. Those selected as relevant characteristics of the subject were visual acuity, measures of absorption and hypnosis-like experiences, the preferred thinking style of the individual, a measure of visual retention and of hypnotic susceptibility. The hypnosis procedure, either the Reiser or Standard experimental induction, was used as the eighth predictor variable.

The results indicate clearly that the predictor variables selected to represent characteristics of the subject are insufficient as pre-hypnosis predictors of the 'error' prone individual. Indeed, the chosen subject characteristics, including hypnotic susceptibility, were unable to significantly predict any of the criterion (dependent) variables, that is, the total errors, new errors, total highly confident errors, and new highly confident errors in the two pre-hypnosis recalls. Similarly, no significant relationship was found for the selected subject characteristics and the criterion variables for the third or hypnosis recall. However, with the addition of the predictor variables of hypnotic susceptibility and the hypnosis procedure, the picture changed somewhat for new errors of memory. Four variables in combination with each other were able to successfully predict 37% of the subjects who would make the most new errors during the hypnosis recall. Furthermore, this combination of criterion variables significantly improved the prediction by approximately 25%.

The four criterion variables which made a unique contribution to the prediction of new errors were the scores from the visual memory test, the hypnotic susceptibility score, and the specific experimental induction. Lower correct scores on the Revised Benton Visual Retention Test (RBVRT) served as a predictor of new errors of memory. Paradoxically, lower error scores on the RBVRT also served as a predictor. The nature of the visual retention test is that there is a fixed or absolute number of correct responses (10) as each card must be recalled entirely correctly to be scored as a correct response. There is

no ceiling, however, to the number of errors a person may make in recalling each card so that the number of errors can vary considerably. It would seem, therefore, from the present study that the 'error' prone individual is someone who has minor but not major visual retention problems as determined by the RBVRT.

To the author's knowledge, this is the first time that visual retention has been considered as a possible factor in the outcome of hypnotic recall, and, therefore, its presence as a significant predictor of the 'error' prone individual could be important. Future studies need to be made to determine whether this is a replicable finding. Other visual retention or visual memory tests such as the Porteous Maze Test (Sterne, 1969), The Complex Figure Test (CFT) (Rey, 1941), The Memory for Designs Test (MDT) (Graham, F.K. & Kendall, 1960), Recurring Figures Test (Kimura, 1963) or the Revised Wechsler Memory Scale (Russell, 1975) might be used and compared with the RBVRT to further examine the role of visual retention in errors of memory in hypnosis. In addition visual memory tests, which assess elements of memory closer to those required in the recollection of a crime, such as the Facial Recognition Test (Albert, M.S., Butters, & Levin, 1979) or the Pictorial Memory Test (Butters & Albert, M.S., 1982) could be included. These proposed studies might provide practitioners with information as to which or whether a visual memory test should be administered as a prerequisite standard procedure for hypno-investigations.

Higher scores on the hypnotic susceptibility scale, the SHSS: C (Mod.), proved to be predictive of a greater number of new errors of memory in the hypnosis recall. This finding is not at all surprising as in numerous studies (Dinges, et al., 1992; Dwyan & Bowers, 1983; Nogrady, et al., 1985; Sheehan, 1988b; Sheehan, et al., 1991; Wagstaff, 1982) subjects who are considered to be high hypnotizables have been found to produce more errors of memory during hypnosis. In the present study, although hypnotic susceptibility was

not found in and of itself to be a statistically significant factor in producing errors of memory in hypnosis, in combination with other predictor variables it appeared to play a role.

Hypnotic susceptibility can be measured relatively easily on a number of standardized scales such as the Stanford Hypnotic Susceptibility Scales: Forms A and B (SHSS: A and B) (Weitzenhoffer & Hilgard, E.R., 1959), the Stanford Hypnotic Susceptibility Scale: Form C (SHSS: C) (Weitzenhoffer & Hilgard, E.R., 1962) or the Barber Suggestibility Scale (BSS) (Barber, 1969). It seems worthwhile, therefore, to recommend that an assessment of hypnotic susceptibility become a standard pre hypno-investigative procedure. In this way, sufficient and thorough investigations will be conducted to ensure that information, particularly from high susceptibles who are at greatest risk for error, has been corroborated before its admission into the court record as allegedly accurate testimony.

It was further found that participation in the Reiser hypnotic procedure was predictive of an increase in new errors of memory. This finding is all the more remarkable when one considers that at the outset, subjects in the Reiser condition appeared to have had the edge for accurate visual retention as evidenced by their significantly higher correct scores on the RBVRT. Thus, one might have expected that with this advantage subjects would have had fewer new errors of recall during the Reiser experimental induction. As the reverse has occurred, once again, these results suggest that there is something in the context of the Reiser experimental induction that enhances the production of new errors of memory.

Much criticism (Wagstaff, 1984; Watkins, 1989) has been directed at the experimental studies on hypnosis and memory for not being representative of the 'real-life' situation. The present study attempted to simulate real-life by placing the subject in the role of a witness to a street crime and by conducting both the waking and hypnosis recalls in the manner of a routine

forensic investigation. A comparison was made between two hypnotic inductions, that is a typical standard and a typical forensic hypno-investigation induction. The results of this study indicate that, as the experimental paradigm moves closer to reality, one is confronted with similar results to those found in purely experimental studies. Overall, the findings indicate that, regardless of hypnotic susceptibility or the type of hypnotic induction, hypnotized subjects recall more information, particularly errors, and do so with greater confidence. Furthermore, many of these errors are confidently retained following hypnosis.

To date, the results of numerous applied and experimental studies have not dissuaded those in favour of using hypnosis for forensic purposes. At best, they have tried to use the safeguards proposed by Orne (1979) to reduce the risk of error and contamination of an eyewitness as much as possible. The results of the present study further highlight the potential dangers which can be involved when using hypnosis or certain hypno-investigative techniques with witnesses. This is particularly noticeable when subjects report that, despite being aware they might have been confabulating in hypnosis, they were unconcerned as they felt so confident. Both the experimental and subjective data converge in indicating that if hypnosis is to be used as an investigative procedure then it is mandatory for the police to obtain independent physical corroboration of the truth or falsity of any new information obtained. In conjunction with this, a recommendation to include confidence ratings as part of the hypno-investigative procedure has been put forward as a further attempt to ensure that correct memories and not errors of memory make up the evidence reported in a court of law.

In addition, this study attempted to find predictors for the 'error' prone individual. Of the eight variables investigated none emerged as a pre-hypnosis predictor of errors of memory. However, minor visual retention

problems, high hypnotic susceptibility and participation in the Reiser experimental induction each made a unique contribution to the prediction of new errors of memory in hypnosis.

Future research on hypnosis and memory would require replication of the finding that visual retention, as measured on the RBVRT, is a predictor of errors. Studies need to be conducted to more closely examine the effects of the imagery used and the tone of the words in the experimental inductions on low, medium and high susceptible subjects. To move the experiment closer to the 'real-life' situation, an affective component, such as viewing a more violent crime in combination with abusive sounds or screams, should be introduced into the eyewitness event. Other procedures commonly used in hypno-investigations such as sketching the event or suspect while hypnotized, introducing a suggestion of guaranteed safety, and/or having the victim or witness recall the event in the third person (Wagstaff, 1985b) also need to be investigated.

In conclusion, the findings of the present study underscore the necessity for the federal and provincial legal systems in Canada to adopt a formal position regarding standards for a forensic hypno-investigation. Based upon the findings of this study, recommendations would include a routine pre-assessment of hypnotic susceptibility, use of the safeguards proposed by Orne (1979), a routine inclusion of confidence ratings, verification that independent physical corroboration of hypnotically derived testimony has been carried out, and mandatory reporting of the use of pre-trial hypno-investigation procedures with eyewitnesses, victims, and/or suspects. Hopefully this would ensure that fairness would prevail for all parties concerned and that a miscarriage of justice, either through a false conviction or the release of a guilty individual due to a mistrial, would be prevented.

### FOOTNOTES

1. As noted in the description of the statistical analyses (Methods p. 76), a positive bias of too many significant results may occur in repeated-measure designs. Therefore, by using more conservative degrees of freedom (Greenhouse solution, Greenhouse & Geisser, 1959) it will, if anything, tend to introduce a negative bias leading to too few significant results. This is preferable as, if the results still prove significant with the more conservative degrees of freedom, then one might conclude that a statistically significant finding is quite robust.

The results of the interaction for Recall Trials (2, 3, 4) x Experimental Condition (Reiser vs Standard) for the New Correct Details of the Suspect were significant at the .01 level [ $F(2,88) = 4.63, p < .01$ ]. With the introduction of the more conservative degrees of freedom (Greenhouse solution), the significance level dropped to .05 [ $F(2,73) = 4.63, p < .05$ ]. However, the end result remains the same, with subjects in the Reiser Experimental Condition recalling a significantly greater mean number of New Correct Details of the Suspect during hypnosis (Recall 3). This finding appears to be quite robust.

2. The introduction of the more conservative degrees of freedom (Greenhouse solution), led to a decrease in the level of statistical significance for the interaction effect for the New Highly Confident Correct Details of the Suspect from the .02 level [ $F(2,88) = 4.34, p < .02$ ] to .05 [ $F(1,65) = 4.34, p < .05$ ]. However, as the interaction effect was still statistically significant, the subsequent post hoc findings remain as described in the Results section. Once again, it can be seen that the interaction finding for this dependent variable is quite robust.



3. The interaction effect for Recall Trials (2, 3, 4)  $\times$  Experimental Condition for the New Errors of Details of the Suspect was found to be statistically significant at the .05 level [ $F(2,88) = 3.12, p < .05$ ] prior to using the more conservative degrees of freedom. Due to the importance of errors of memory in the forensic situation, and, as the result with the more conservative degrees of freedom was close to significance [ $F(1,61) = 3.12, p < .08$ ], it was decided to analyze the interaction further.

4. It can be observed in the Pearson Correlation matrix for the predictor variables in Appendix B<sub>1</sub>, that visual acuity is significantly related to hypnotic susceptibility as measured on the SHSS:C (Mod.) ( $r = .42, p < .01$ ). This appears to be a chance finding since there is no basis for thinking that hypnotizability itself is associated with better eyesight. As expected, due to the standardized method for scoring the visual memory test, the RBVRT (Benton, 1974), there is a high correlation between the total error and total correct scores ( $r = .95, p < .001$ ). The two measures of absorption, the TAS and the PEQ: CA 79 were found to be significantly related both to each other ( $r = .80, p < .001$ ) and to the SHSS: C (Mod.) ( $r = .44, p < .01$ ). Both the TAS and the original version of the PEQ: CA 79 have been positively correlated with hypnotic susceptibility level in previous studies (Tellegen & Atkinson, 1974; Weitzenhoffer & Hilgard, 1959). Although this correlation matrix indicates that the shorter version of the PEQ: CA 79 (Evans, 1982) is also positively correlated with hypnotic susceptibility level it could be a chance finding and therefore, requires further examination. In addition, it can be seen that one of the absorption questionnaires, the TAS, is also significantly related to hypnotic procedure ( $r = .46, p < .001$ ).

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**APPENDICES**



**APPENDIX A**

**CONSENT FORM**

**Background Information for Participation in Research Studies  
In: The Hypnosis Laboratory, Department of Psychology,  
Concordia University**

**Name:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

The research carried out with volunteer subjects in the Hypnosis Laboratory of the Department of Psychology includes a number of continuing research projects. Our studies are concerned with understanding more about the nature of hypnosis and various hypnotic phenomena. The success of our research depends upon the assistance of volunteers like yourself and we are grateful for your participation.

Please sign this form after reading the following section: -

Today, I am volunteering to participate in a research study which will take place over three separate sessions. The study will involve the individual administration of a combination of standardized hypnotic test items (e.g., arm rigidity which will be tested by holding my arm out and seeing if it can be bent; glove analgesia which will be tested by the application of a harmless electric stimulus to the back of the hand; a visual retention task that will be tested by using a visual test; hypnotic age regression where I will be asked to go back to earlier periods in my life, etc...); my participation will also involve discussing my experience of hypnosis and completing a number of research inventories that will ask me to comment on my overall perceptions and experiences of the study. I have been told that some of my sessions will be video-taped as is the standard practice in the Hypnosis Laboratory.

I understand that I will receive payment of \$30 for my participation upon completion of all three experimental sessions. I understand further that I may withdraw from the experiment at any point and I will still receive payment for the sessions that I have completed.

**Signature:** \_\_\_\_\_

**Investigator:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**APPENDIX B**



**APPENDIX C**

**DEFINITIONS OF VISUAL PROBLEMS**

**Near sightedness (myopia)** - the refractive state in which the far point lies at a finite distance in front of the eye; everything beyond that point is blurred; the error is corrected with minus lenses. (p.22)

**Far sightedness (hypermetropia)** - refractive error in which the far point lies behind the retina; plus (convex) lenses are required for correction; the eyeball is relatively short or the cornea relatively flat, or both (p.16)

**Astigmatism** - literally - "without a point"; a refractive condition of the eye where there are two major focal lines rather than a point focus due to irregularity of the refractive media of the eye especially the cornea and lens. (p.5).

**Photophobia** - light adapted; overly sensitive to light

**Source:** Collins, James F., M.D. (Ed). (1982).  
Handbook of Ophthalmology.  
New York: MASSON Pub. USA Inc.

**APPENDIX D**

Transcript of the four recalls of a  
subject in the Reiser Experimental  
Induction Condition

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**SUBJECT #27 - female, 23 years.**

**RECALL 1 - May 8<sup>th</sup>**

**EXPERIMENTER (E) - Okay, so just in your own words..**

**SUBJECT (S) - ..describe what happened.**

**E:** ..what did you see happen, um hm.

**S:** Okay, there was a woman walking down the street with..um..a shopping bag, and her purse, and she was passing by stores, and then she ran into one woman. Ahh..they talked awhile and in the background there was a man leaning against a pickup watching them. Ahh..then she parted, the one woman continued on her way, the man was approaching her. And they encountered and he, purposely it looked like, bumped into her, ah..making her drop her shopping bag. And as she bent down to pick her stuff up, she had put her purse down behind her and as she was putting the stuff back into her bag he went into her purse and took her wallet.

**E:** Umm..hm..Okay, Now how sure are you of these things that you've seen, ah..said?

**S:** ..4

**E:** 4 for all of them?

**S:** Umm..(agreement)

**E:** Okay, um..hm.. so he took her wallet?

**S:** Umm..huh, and then walked away with it in his jacket and she ran into two more women who were coming across the street and she seemed to be telling them what had happened..

**E:** Um..hmm..

**S:** Ahh ..end of story? ha, ha.

**E:** Okay, and how sure are you of those last things you said?

**S:** Umm... 3.

**E:** 3? Okay, 'bout what time of day do you think this took place?

**S:** ..I would say late afternoon. It wasn't very bright.

**E:** Um.. hmm and how sure are you of that?

**S:** 3.

**E:** Um..and in a couple words what happened?

**S:** To.. in all?

**E:** To kind of summarize it? Yeah.

**S:** It was an incident of purse picking.

**E:** Um...hm, okay and how sure are you of that?

**S:** 5

**E:** Um.. hmm.. okay. Now around the actual site of the incident were there any landmarks that would indicate either where the suspect had come from or where they were going to?

**S:** ahh.. I would think she had been shopping or was window shopping because I remember a... ..well she was walking down a boulevard where there were stores and boutiques and she was looking in them, in them shop.

**E:** Umm.. mainly the suspect like where...?

**S:** Where was she?

**E:** The suspect, the one that did the crime? The one that took the wallet?

**S:** Oh, the one that did the crime?



E: um.hm.....  
S: Where he would be going?  
E: Yes, or where he might have come from?  
S: From what I can remember he was standing by his pickup, although he could have been at the tavern....  
E: Um.. hmm..  
S: ...because there was a tavern, but he was standing by his pickup, that's what I remember most.  
E: Um hm, okay and how sure are you of that?  
S: 4  
E: Okay, and where do you think he might have gone afterward?  
S: ..Good question. I mean he wasn't in his pickup.. I just remember seeing another boutique across the street when he was crossing...  
E: Um.. hm.. and how sure are you of that?  
S: ..2.  
E: And can you describe the object that was taken?  
S: It was a red, looked like long, either wallet or check book type thing.  
Long rectangular.  
E: Um.hm.. and how sure are you of that?  
S: 4.  
E: And how sure are you that it was long?  
S: I would say 5.  
E: Okay, and that it was red  
S: 5.  
E: And what kind of red?  
S: Umm... bright red.  
E: Um hmm.. and how sure are you of that?  
S: 5  
E: And what would the dimensions of the wallet be?  
S: Your regular, well, cheque book size approximately  
E: Um hmm.. okay, and how sure are you of that?  
S: 4  
E: Okay. Now, can you give me a description of the suspect?  
S: The man in blue denims with a cowboy hat and a moustache.. .. and an evil smirk, hmm.  
E: Okay, how sure are you of this.... man?  
S: 4  
E: Um hmm, and you say he was wearing a hat ...?  
S: Cowboy hat  
E: Cowboy hat, how sure are you of that?  
S: 5  
E: What colour was it?  
S: Beige, off white, light colour...  
E: Umm hmm, and how sure are you of that?  
S: 5  
E: Okay. Um, you said blue denims ...?  
S: Jeans and jean jacket.  
E: Jeans and jean jacket. Okay, how sure are you it was jeans?  
S: 4  
E: And that it was a jean jacket?  
S: 4  
E: And what colour were they?  
S: Blue.

- E: Blue. And how sure are you of that?  
S: 5  
E: Okay, and what did the jean jacket look like?  
S: Like a faded jean jacket.  
E: Faded. Um hmm, how sure are you of that?  
S: 4  
E: Anything else you noticed about it?  
S: About him?  
E: No, about the jacket.  
S: Hmm.. no..I can't remember if it was lined or not so I can't say.  
E: Umm.hmm..okay. How about the jeans themselves, anything further you can add about them?  
S: I think they were also faded, but I don't think they were as faded as the jacket.  
E: Um hmm.. and how sure are you of that?  
S: 3  
E: Okay, anything else about them, any particular style?  
S: I think they looked like your regular Levi's, fade.  
E: Um hmmm..  
S: ...they weren't designer jeans.  
E: Okay, how sure are you of that?  
S: 4  
E: And how sure are you they weren't designer jeans?  
S: 4  
E: Okay. So, was he wearing anything on his feet?  
S: Boots.  
E: Um..hmm..What kind?  
S: Cowboy.  
E: Um.hmm..And how sure are you of that?  
S: 3  
E: And what colour were they?  
S: Ahh.. light brown.  
E: And how sure are you of that?  
S: 3  
E: Umm.. was he wearing anything under his jacket?  
S: ...I think a T-shirt.  
E: Um.hm..and how sure are you of that?  
S: 2  
E: Um.hm..and what colour was it?  
S: I don't remember.  
E: Okay, was he carrying anything like a purse or a satchel, a bag?  
S: I don't think so.  
E: Um.hm..and how would you rate that?  
S: 1  
E: Okay, was he wearing anything on his hands?  
S: ...No.  
E: Okay, and how would you rate that?  
S: 1  
E: Um..hm.. was he wearing any jewellery?  
S: That's why I put a one, I wasn't sure if there was a ring or not..  
E: Um... hm...  
S: ..perhaps.. um hmm..  
E: So, you're questioning whether there was a ring?

S: Um hm...

E: How sure are you there was a ring?

S: 1

E: Okay, any other jewellery?

S: Umm.. ..no.

E: Okay... was he wearing anything like glasses?

S: ..I don't think so, no.

E: Um.hm..and how sure are you of that?

S: 2

E: Okay, and was he carrying anything like a parcel or weapons?

S: No.

E: Um.hm.and how sure are you of that?

S: 2

E: Okay, about how old was he?

S: Early thirties.

E: Um.hm. and how sure are you of that?

S: ..4

E: Um.hm. and his height?

S: Taller than me, hee.hee..umm.. ..five ten to six.

E: And how sure are you of that?

S: 3

E: And his weight?

S: Oh boy...165 to 175.

E: Um hm and how sure are you of that?

S: 2

E: Um hm and his body build?

S: Ahh.. slim.

E: Um hm and how sure are you of that?

S: 3

E: Anything else about his body build?

S: No, not that I can recall.

E: Okay, his skin colour?

S: ..his skin colour.. ..I can't say he was tanned so.. ..I can describe him as ordinary. It wasn't ruddy and wasn't pale, kind of between.

E: Um hm how sure are you of these things?

S: 2

E: Okay. His hair colour?

S: Brown.

E: Um.hm. and how sure are you of that?

S: 3

E: Okay. Now, can you describe his face?

S: It looked rough.. umm.. maybe like he hadn't shaved in, in.. hard to tell, at least a day. He had a moustache.

E: Um.hm..how sure are you that he hadn't shaven?

S: 3

E: Um.hm.and about the moustache?

S: It was quite long and... kind of outwards, like not a little thing and not a...

E: And how sure are you that there was a moustache?

S: 4

E: Okay, and that it was sort of the way you described it?

S: ..hmm scraggly.. umm. 3

E: Um.hmm..and how sure are you it was scraggly looking?  
S: 3  
E: 3? Okay, and that it was sort of long and out over the face?  
S: 2  
E: Okay, what colour was it?  
S: Same colour as his hair.  
E: Um.hm.. brown? Um hm and how sure are you of that?  
S: 3  
E: Okay...anything else you noticed about the moustache?  
S: No.  
E: Okay. Did he have any other facial hair?  
S: No.  
E: Um.hm.and how sure are you of that?  
S: 4  
E: Okay. What about the shape of this face?  
S: ..hmmm.. slight oval  
E: Um.hm..and how sure are you of that?  
S: 3  
E: Um.hm..anything else you noticed about his face in general?  
S: ...I think he had creases, on his cheeks and the sides of his face.  
E: Okay, and how sure are you of that?  
S: 2  
E: Um.hm.what about his forehead?  
S: I didn't notice his forehead..  
E: Okay, or his eyes?  
S: ..he had a hat..  
E: Well, you couldn't see it you mean or..?  
S: I took more notice of his hat then..  
E: Hat? Okay, how about his eyes?  
S: They looked beady, but I couldn't tell the colour.  
E: Okay, and how sure are you about the beady?  
S: 3  
E: Um.hm.his eyebrows?  
S: ..no I.. ..I didn't notice his eyebrows..  
E: Um.hmm.. his nose?  
S: I think it was slightly on the wide side. He had a very rugged look about his face.  
E: Okay...how sure are you it was wide?  
S: 2  
E: And that he had a rugged look?  
S: 4  
E: Um.hm.how about his mouth?  
S: ..he just kind of.. ..grinned a lot.  
E: Um.. hm.. how sure are you about that?  
S: 5  
E: You said he had sort of an evil smirk...  
S: Yeah it was..  
E: ..before. How would you rate that?  
S: My certainty of it?  
E: Um....  
S: ahh.. 4  
E: Okay, anything else about the mouth?

S: No.  
E: His ears?  
S: I didn't notice.  
E: Okay, his chin?  
S: Didn't notice.  
E: Um.hm. his hair style?  
S: I think it was curly well, wavy.  
E: Um hm and how sure are you of that?  
S: 3  
E: Um.hm. anything else you noticed about him?  
S: No, not in particular.  
E: Um.hm.. okay. Any special markings on his face like scars or acne or birth marks?  
S: No, I think he just had the creases?  
E: Okay, and how sure are you of that? That there wasn't anything special?  
S: 2  
E: Okay. Now, you probably saw him from different points of view, can you think of anything further you might have noticed from the front?...from face on?  
S: ..umm no, I've said everything.  
E: Okay ..from the side?  
S: No..just along.. he wasn't side on because he was leaning against his car so he had a bit of a slouched look about him at the time. Other than that.. I can't recall..  
E: Okay, from the back?  
S: ...  
E: Okay. What sort of person does he look like?  
S: Umm.. he looks like the rough type. You know, like not ahhh.. a business man or anything like that, you know...  
E: And how sure are you of that?  
S: 5.  
E: Um hm okay, and where do you think he might be found?  
S: Umm.. After the incident?  
E: Um. hm like where might he hang out, normally?  
S: In taverns..  
E: And how sure..?  
S: .. in the shopping districts more like where he was there.  
E: And how sure are you of those things?  
S: 4  
E: Okay. Anything else you noticed about him?  
S: ..hmm.. Not that I can recall for you.  
E: Okay. Now you mentioned there were a couple of people that um, two women that came over...  
S: Um hmm..  
E: ..and ahh, how sure are you that they were women?  
S: 5  
E: Okay. And about how old were they?  
S: One was older, perhaps in her forties, and the other one was younger umm.. maybe thirtyish, but not younger.  
E: Um.hm.. and how sure are you of those things?  
S: 4  
E: Okay, and how about their size?  
S: The younger one was shorter and rounder, the older one was taller and slimmer.  
E: Um..hm.. and how sure are you of those things?  
S: 5

- E: Okay, and what were they wearing?  
 S: Ahh.. the taller one was wearing plaid, and I.. ..I think a green top.  
 E: And how sure are you of that?  
 S: 4 I'm sure, I'm more sure about the pants than the top.  
 E: And how sure are you of the pants?  
 S: 5  
 E: Okay and how about the other one?  
 S: Oh boy.. ..ugh.. I don't remember any more. I think she had on a red top. I think that was the first woman. I don't remember what the younger one was wearing.  
 E: Okay and how sure are you of that, red top?  
 S: 1  
 E: Okay. Now anything else?  
 S: About them?  
 E: Um..hm.. or anything.  
 S: No, I gave you all the details I noticed.  
 E: But anything that you think would help to track down the suspect?  
 S: Ahh well, I could tell that they had witnessed, you know. ..I don't really.. ..just that the taller, slimmer woman looked like someone, somewhat like the woman she had met prior to the incident, 'cause of the pants. Except she wasn't wearing the same top...  
 E: Right  
 S: ..she was wearing a red top, a sweater hood..  
 E: Okay.

**RECALL 2: May 15<sup>th</sup>**

**EXPERIMENTER (E):** Okay, so just in your own words then, what did you see happen in the slides last week?

**SUBJECT (S):** Okay I remember it was a situation of a pick purse. Ahh.. where a woman was walking down the street with a shopping bag in her arm and her purse on her shoulder and she was passing stores and boutiques and further in the background there was a man leaning on his pickup watching her. Ahh.. she encountered one woman and after that woman left the man walked towards her and beside her. He bumped her and made her drop her bag and when she... while she was bending down picking up her things he had reached into her purse and pulled out the red wallet.

- E: Um.hm..  
 S: And he slipped it in his jacket and walked away.  
 E: Um.hm..  
 S: And she continued on her way and met two other women..  
 E: Um.hm..  
 S: ..and then they um.. well that was it.  
 E: Okay, so now how sure are you about these things?  
 S: Of the situation, 5  
 E: Okay, but of the individual things, are you sure of them all as a 5?  
 S: No, 4  
 E: So, of the pick pocketing you're saying 5?  
 S: Um.hm...  
 E: or picking the purse?  
 S: The actual situation.  
 E: Right, the actual situation and then for these sort of different..

S: ..these sort of..  
E: ..specific items. Like how sure are you it was a red wallet?  
S: 5  
E: Okay, and that he bumped into her?  
S: 4  
E: 4, um.hm.. and how about some of the other things then?  
S: Umm..  
E: Like, the man leaning against the pickup truck?  
S: That's 5.  
E: Um hm.. okay and in the first place that there was a woman sort of walking along?  
S: The victim being a woman?  
E: Um hm.  
S: That's 5.  
E: Um hm, and she met a friend?  
S: That's 5.  
E: And then they sort of left each other?  
S: Um hm. And then she had met two others at the end..  
E: At the end?  
S: ..at the end..  
E: That's 5?  
S: ..that's 5.  
E: Um.hm.. Umm.. okay, and then that he, he sort of approached her and bumped into her, and all that, how would you rate that?  
S: Um 5.  
E: And that he made the bag drop?  
S: 5  
E: Um.hm.. so it's more um, you're saying more that the things are like 5?  
S: Oh, I guess so.  
E: Okay, and about what time of day do think this happened?  
S: Early to mid afternoon.  
E: Um.hm.. how sure are you of that?  
S: 4  
E: Um.hm. and then.. around the actual sight of the incident were there any landmarks that you noticed that would give you an idea where the suspect came from or where he was going to?  
S: I remember seeing the tavern at the beginning.. Um, it was like a shopping district because of the boutiques.  
E: Um.hm.. how sure are you of these things?  
S: 4  
E: Okay, and where do you think he went afterwards?  
S: I don't really.. I remember him crossing the street but I don't remember where he was heading.  
E: Um hm, and how sure are you of that?  
S: 4  
E: Um hm.. and can you describe the object that was taken?  
S: A red wallet, check book size, a long red check book.  
E: Um.hm.. and the size was?  
S: Ahh.. check book size, rectangular.  
E: Um.hm.. and what kind of a red was it?  
S: Bright red.  
E: Bright? And how sure are you of all these things?  
S: 5  
E: Okay, now, can you describe the suspect?

- S: He had on denims, jeans, and a jean jacket, cowboy hat, I believe cowboy boots, brown hair, brown moustache, and he was fairly tall, and medium build.
- E: Um.hm.. okay can you put a number to the height?
- S: Ahh.. I don't remember.. 5'10" to 6 foot.
- E: Um.hm.. and how sure are you of that?
- S: 3
- E: How sure are you, well, he was tall.. huh? I should have said that first I guess, that would be tall. Okay, sex? What sex?
- S: Him? ha.ha..
- E: You're sure it was male, eh?
- S: ha ha..
- E: Okay, and how sure are you of that?
- S: 5
- E: Okay, his age?
- S: Oh, thirty to thirty-five.
- E: Um.. hm.. and how would you rate that?
- S: 3
- E: Um.hm.. and his weight?
- S: 155 to 170
- E: Um.hmm.. and how sure are you of that?
- S: 3
- E: Okay, and you said.. His body build?
- S: Medium build.
- E: How sure are you of that?
- S: 3
- E: Um hm, okay, skin colour?
- S: White, but not pale, more like a not even ruddy.
- E: Umhm. and how sure are you of that?
- S: 3
- E: Okay, his hair colour?
- S: Brown.
- E: How sure are you of that?
- S: 4
- E: Okay, now you say he was wearing a jean jacket, how sure are you of that?
- S: 5
- E: Okay and what did it look like?
- S: A short bomber jacket.
- E: Um.hm.. how sure are you of that?
- S: 4
- E: And what colour was it?
- S: Blue, blue denim.
- E: Um.hm. and how sure are you of that?
- S: 5
- E: And did you notice anything else about it?
- S: No, I don't remember.
- E: Okay, and the jeans, how sure are you of that?
- S: That he was wearing them? 5
- E: Um.hm.. and what did they look like?
- S: Faded, your regular straight legged men's cut.
- E: Um.hm.. and how sure are you that they were faded?
- S: 3



- E: And that they were straight legged?  
S: 3  
E: Anything else you noticed about them?  
S: Umm.. No.  
E: Okay, and boots, how sure are you he was wearing boots?  
S: 3  
E: And that they were cowboy?  
S: 3  
E: And what colour were they?  
S: Oh, I think they were tan.. 2.  
E: 2? And was he wearing anything under the jean jacket?  
S: A shirt.  
E: Um.hm.. what kind?  
S: I don't remember.  
E: Okay, how sure are you there was a shirt?  
S: 2  
E: And did you notice the colour?  
S: I know there was a shirt but I don't remember if it was a shirt or a t-shirt.  
E: Ahh..  
S: No, I don't remember the colour.  
E: Okay, was he carrying anything like a purse or a bag or a satchel?  
S: I don't think so.  
E: And how would you rate that?  
S: 2  
E: Okay, and you mentioned a hat?  
S: Cowboy hat.  
E: Um.hm.. how sure are you of that?  
S: 5  
E: What colour is it?  
S: Ahh.. I think tan.  
E: Um.hm.. and how sure are you of that?  
S: 3  
E: Anything else you noticed about it?  
S: No, don't remember.  
E: Okay, was he wearing anything on his hands?  
S: I don't remember.  
E: And how sure are you of that.. Oh, you don't remember period, eh?  
S: Um..  
E: And jewellery?  
S: Possibly a ring, but that's a one.  
E: And what did it look like?  
S: I'm not sure. A band maybe.  
E: Umm.hm.. and how sure are you of that?  
S: 1  
E: Okay, colour?  
S: Um.um..  
E: Okay, was he wearing glasses?  
S: I don't think so.  
E: And how sure are you of that?  
S: 3  
E: Carrying a parcel or weapons?

S: No.  
E: And how sure are you of that?  
S: 3  
E: Umm, what did his face look like?  
S: Rugged face with a scraggly moustache.  
E: Um.hm.. how sure are you it was rugged?  
S: 5  
E: Um.hm.. what shape was it?  
S: Oval.  
E: Um.hm.. how sure are you of that?  
S: 3  
E: Anything else you noticed about the face?  
S: It creases on the side.  
E: Um.hm.. and how sure are you of that?  
S: 5  
E: Okay, his forehead?  
S: I don't think there is anything that I noticed.  
E: Um.hm.. and his eyes?  
S: Beady eyes.  
E: Um. hm.. how sure are you of that?  
S: 4  
E: What colour?  
S: I couldn't tell.  
E: Okay, eyebrows?  
S: I couldn't see.  
E: Nose?  
S: ..Regular nose, it wasn't big, it wasn't pointy.  
E: Um.hm.. and how sure are you of that?  
S: 2  
E: Okay, mouth?  
S: I just noticed the moustache, I couldn't catch the mouth.  
E: Um.hm.. ears?  
S: Didn't notice.  
E: Chin?  
S: Didn't notice.  
E: Hair style?  
S: I think it was wavy.  
E: How sure are you of that?  
S: 2  
E: Okay, nothing else?  
S: Not that I can recall.  
E: Okay, did he have any special marks on his face like um..  
S: Scars or anything.  
E: Scars or moles or acne or anything like that?  
S: No, I just remember the creases on his cheeks.  
E: Um. hm.. so, how sure are you that there wasn't anything else.. hmm?  
S: 2  
E: Now you mentioned a moustache, how sure are you of that?  
S: 5  
E: And the colour, of it?  
S: 4, brown.

E: Um hm and that it was scraggly?  
S: 4  
E: What else did you, did you notice anything else about it?  
S: It was longish.  
E: Um.hm.. you mean it went over the mouth sort of?  
S: Yeah.  
E: And how sure are you of that?  
S: 4  
E: Okay, anything else about the moustache?  
S: No.  
E: Okay, now you probably saw him from different points of view, can you think of anything further you might have noticed from the front?  
S: No.  
E: From the side?  
S: No.  
E: From the back?  
S: No.  
E: Okay, what sort of person does he look like?  
S: Rugged cowboy type?  
E: Um.hm.. and how sure are you of that?  
S: 5  
E: And where do you think he might be found?  
S: In the tavern.  
E: Um.hm.. and how sure are you of that?  
S: 4  
E: Anything else you noticed about him?  
S: Umm.. no.  
E: Okay. Umm. now you mentioned that there were some people who met up with the victim at the end..?  
S: At the end? The two women.  
E: Um hm.. and how sure are you they were two women?  
S: 5  
E: Okay, and about how old were they?  
S: They were.. the older one was maybe between.. forty and fifty..  
E: Um.hm..  
S: ..and the younger one between.. ..thirty and forty.  
E: Um. hm.. and how sure are you of this?  
S: 3  
E: Okay, and their size?  
S: One was tall and slim, and the other one was shorter and broader.  
E: Um. hm.. how sure are you of that?  
S: 4  
E: Okay, and their clothing?  
S: All I remember is that the taller woman was in.. plaid pants.  
E: Um.hm.. and how sure are you of that?  
S: 5  
E: Anything else?  
S: I think that the shorter one was wearing a jacket.  
E: Um.hm.. and how sure are you of that?  
S: 2  
E: Okay, anything else?

S: Umm.. not that I can remember.  
E: Okay.

**RECALL 3: May 15<sup>th</sup>**

**EXPERIMENTER (E):** One, two, three.... the videotape is starting and I'd like you to describe to me what you are seeing. Describe what is happening. Just let it unfold as you see it happening.

**SUBJECT (S):** - There is a lady walking down the street with a white shopping bag on her right arm... and she is passing a tavern. And I remember she is passing a sign, a billboard or something on the store. And I think there may have been.. two boys beside the billboard, or else in front of the billboard with pictures of school children on the front. And she's walking down the street, and she passes the tavern, and she passes... a man's clothing boutique, and she's looking at a sports jacket... in the window. And .. um.. another woman appears dressed in plaid pants, tall, thin/and there's a little red sweatshirt umm... They were both looking in this window and they were chatting. And... further in the background there is a young, youngish man named Kevin... in front of a pet shop... watching them.

E: OK, now how sure are you of all these things?  
S: Umm... the beginning part 3, the rest 4.  
E: OK, now.. with her walking along with the bag in her arm, how sure are you of that?  
S: 5.  
E: Um.. hmm.. and anything else that's happened?  
S: 5.  
E: And then the boys in the billboard?  
S: 2.  
E: And that they had pictures of soldiers on them?  
S: 2.  
E: OK, and that then she passes a clothing boutique?  
S: 4.  
E: Umm.. looks at a sports jacket?  
S: 4.  
E: And then she runs into someone?  
S: Umm.. hmm.  
E: And the description of them?  
S: Ah.. 4.  
E: Um.. hmm.. that they talk?  
S: 5.  
E: And then that they look in the window?  
S: 4.  
E: And then that the youngest man is leaning against the pickup truck?  
S: 5. Can I open my eyes?  
E: Um.. hm.  
S: OK.  
E: And then what happened after you saw the man leaning against the truck?  
S: Um.. the friend left.  
E: Um.. hmm.. How sure are you of that?

S: 5.  
E: Um.. hmm.  
S: She turned around and waved goodbye.  
E: And how sure are you of that?  
S: 4.  
E: Um.. hmm. And then?  
S: And she put her arm away and the man had been noticing and he um.. walked towards her.  
E: Um.. hmm.  
S: And... sorry?  
E: How sure are you of that?  
S: 5.  
E: Um.. hmm.  
S: And as he.. was.. right beside here he ah.. accidentally, on purpose bumped her so that she dropped her.. the shopping bag and purse on the ground. And they both bent down and she was coming up, from putting something in the bag and he took the opportunity to reach behind and into her purse and took her... wallet.  
E: OK, now how sure are you of this?  
S: 4.  
E: OK, and then after he reached in her purse?  
S: He pulled it out, and she was just getting up not looking at him and he put it in his jacket. And then...  
E: How sure are you of that?  
S: 5  
E: Um.. hmm.  
S: And then he, they went on their way and he had ah... taken her wallet. She met up with... ah... two other women, an older one and a younger one, and they spoke awhile and he continued on his way, and I remember, he was standing on the street corner listening to the traffic go by.  
E: And how sure are you of these things?  
S: 4.  
E: About what time of day did this take place?  
S: Mid-day.  
E: And how sure are you of that?  
S: 4  
E: Can you summarize what happened?  
S: It was a perfect incident of um.. pick.. pocket.  
E: And how sure are you of that?  
S: 5.  
E: Around the site of the incident was there anything that would indicate where the suspect would come from or where he might be going to?  
S: Um.. I just remember the pic-up.  
E: Um.. hmm. And what did it look like?  
S: It looked like one of those old pick-up trucks you see in um... I just don't even remember now.  
E: How sure are you on that?  
S: 5.  
E: And where do you think he went after the incident?  
S: I remember mostly seeing the car, the only thing cars go by, but there may have been a restaurant across the street. Or else another car.  
E: And how sure are you of these things?  
S: 3.  
E: OK, and can you describe the object that was taken?  
S: It was a red rectangular wallet, checkbook size.

- E: Kind of red?  
 S: Bright red.  
 E: And how sure are you of these things?  
 S: 5.  
 E: That's very good. Now, this time, while you're sitting comfortably here in the memory room, I would like to stop the videotape. I would like to look closely at the videotape where I stop it and zoom-in on the FACE of the suspect. Describe, very carefully, the face of the person in front of you... the face of the person in the incident you have just described. Concentrate and see the face very, very clearly, accurately and vividly with the frame stopped. I'd like you to describe it to me as you continue looking at it, seeing it clearly, accurately and vividly. I'm going to turn the videotape back to that point once more and stop it. Now, look at that frame of that face right in front of you. Now describe the FACE that you see.
- S: Umm... He has brown.. wavy hair.. not a very dark brown.. and... beady eyes... shifty brown. He doesn't look very clean shaven.. but not.. not scruffy either. He had a.. a longish moustache, the same colour as his hair.. and a big nose.. and, somehow the moustache continues so he has big creases on the side of his face.
- E: Um.. hmm.. and how sure are you of all those things?  
 S: Um.. 4.  
 E: And.. about the colour of his hair?  
 S: 4.  
 E: The colour of his moustache?  
 S: 4.  
 E: How sure are you that he had a moustache?  
 S: 5.  
 E: And, how sure are you of what it looked like?  
 S: 4.  
 E: Umm.. Is there anything else that you noticed about the moustache?  
 S: No. It sort of sits close to his mouth though.. above.. sort of covers most of his mouth..  
 E: Umm.. hmm.. How sure are you of that?  
 S: 3.  
 E: And, how sure are you that the moustache covered most of his mouth?  
 S: 4.  
 E: Umm.. hmm.. What was the shape of his face like?  
 S: Umm... oval..  
 E: How sure are you of that?  
 S: 3.  
 E: Umm.. What did you notice about the shape of his face?  
 S: Umm..... I think he was thinner from the cheeks down to the chin. Not pointed.  
 E: Umm.. hmm.. And, how sure are you of that?  
 S: 3.  
 E: And, now the forehead?  
 S: Umm.... I don't know. I couldn't see because of the hat.  
 E: OK.. and how sure are you of that?  
 S: 5.  
 E: OK.. And, what about his eyebrows?  
 S: I didn't notice.  
 E: And his nose?  
 S: I think it was a straight.. nose.  
 E: And, how sure are you of that?  
 S: 3.

E: Umm.. his mouth?  
S: It was curving down.  
E: Umm anything else?  
S: Um..  
E: His ears?  
S: Nothing.  
E: His chin?  
S: Umm... I think it sort of juttet out a bit.. Not a lot.  
E: Um.. hm.  
S: A really rugged looking face.  
E: How sure are you of that?  
S: 3.  
E: A rugged looking face. How sure are you of that?  
S: 5.  
E: OK. And his hair style?  
S: Wavy. Not overly long.. but over the collar.  
E: How sure are you that it was wavy?  
S: 4.  
E: And how sure are you about the length.  
S: 4.  
E: OK. Did he have any special markings on his face?  
S: No. Just the creases.  
E: OK. Did he have any other facial hair?  
S: Um.. he looked like he might have had a day's growth of beard.  
E: And, how sure are you of that?  
S: Of the beard? 3.  
E: OK. Now, direct your attention to the TV frozen frame and look at the ENTIRE SUSPECT and describe to me - as accurately and vividly as you can his clothing.  
S: He had blue jeans... and.. a short, denim jean jacket.. and cowboy boots.. and a cowboy hat. And, his jacket was open.. um... I think he was wearing a plaid shirt, but I can't be sure.  
E: Um.. hmm.. And, now how sure are you of the description of the jacket?  
S: 4.  
E: And, that it was open?  
S: 4.  
E: And, did you notice anything else about it?  
S: Umm... no.  
E: What colour was it?  
S: Blue denim.  
E: And, how sure are you of that?  
S: 5.  
E: And, how sure are you about the jeans?  
S: 5.  
E: And, what colour were they?  
S: Blue denim.  
E: And, how sure are you of that?  
S: 5.  
E: Anything else you noticed about them?  
S: No.  
E: What style were they?  
S: Uhh.. straight cut.  
E: Um.. hm.

S: Like Levi's.  
E: Um.. hmm.. OK. And, how sure are you of that?  
S: 5.  
E: And... how sure are you about what he was wearing on his feet?  
S: 4.  
E: And, what colour were they?  
S: Tan.  
E: And, how sure are you of that?  
S: 4.  
E: And... uh.. how sure are you about the shirt?  
S: 2.  
E: That it was plaid?  
S: 1.  
E: And, what colour?  
S: Ahh... I'm not sure.  
E: Was he carrying anything like a purse or a bag?  
S: No.  
E: And, how sure are you of that?  
S: 3.  
E: Was he wearing anything on his hands?  
S: Umm.. possibly a ring but.. I'm not sure. A gold band.  
E: And, how sure are you about the ring?  
S: 2.  
E: And, that it was a band?  
S: 1.  
E: And, that it was gold?  
S: 1.  
E: Was he wearing any other jewellery?  
S: Uhh.. no.  
E: OK. Was he wearing anything else on his hands?  
S: No.  
E: And, how sure are you of that?  
S: 3.  
E: Was he wearing glasses?  
S: No.  
E: How would you rate that?  
S: 5.  
E: And.. was he carrying a parcel? or weapons?  
S: No.  
E: And how would you rate that?  
S: 4.  
E: Umm.. hmm.. Now.. I would like you to focus on the Suspect's age and height and weight and things like that. What can you see?  
S: .....He appears to be about 35.  
E: Umm.. hmm. And how sure are you of that?  
S: 4.  
E: And how tall was the person? the height?  
S: Ohh... between 5'10" and 5'11". Something like that.  
E: And, how sure are you of that?  
S: 4.  
E: OK. And weight?



S: 165 to 175.  
E: And, how sure are you of that?  
S: 3.  
E: And the body build?  
S: Umm.. medium build.  
E: And, how sure are you of that?  
S: 4.  
E: Umm.. hmm.. And his skin colour?  
S: White, not ruddy but slightly tanned.  
E: And, how sure are you of that?  
S: 3.  
E: OK. Are you sure it was a male?  
S: Yep.  
E: How sure are you of that?  
S: 5.  
E: OK. Now I would like you to take another look at the Suspect from the FRONT and describe to me as accurately as you can anything that would help to identify the Suspect.  
S: Umm.... I can't be... He may have been wearing a belt.  
E: And, how sure are you of that?  
S: 2.  
E: And, what did it look like?  
S: Umm.. a regular belt. Not a dark brown. A large buckle.  
E: And, how sure are you about the buckle?  
S: 2.  
E: And, what colour was it?  
S: The belt was brown and the buckle colour um.. dark.. but.. brown... sort of copper colour.  
E: Um.. hmm.. And how sure are you of this?  
S: 1.  
E: And, the brown itself?  
S: 1.  
E: Um.. anything else?  
S: No.  
E: OK. And, now I'd like you to take another look at the Suspect from the SIDE and describe to me - as accurately as you can, anything that would help to identify the Suspect.  
S: I can't remember anything from the side.  
E: OK. Now I would like you to zoom in on the Suspect's BACK and describe to me as vividly as you can anything that would help to identify the Suspect.  
S: I think his hair was slightly over his collar in the back and he may have been carrying something under his back pocket of his pants, either a pair of sunglasses or umm.. a magazine, part of a newspaper, something rolled up.. can't be sure.  
  
E: OK, how sure are you about the length of his hair?  
S: 3.  
E: And about carrying something in his back pocket?  
S: 2.  
E: And as to what the object was?  
S: 1.  
E: OK, how many back pockets were there?  
S: Two.  
E: OK, and how sure are you of that?  
S: 2.

- E: OK. What sort of a person does he look like?  
 S: Like a cowboy type.  
 E: And how sure are you of that?  
 S: 4.  
 E: And where do you think he might be found?  
 S: Tavern.  
 E: And how sure are you of that?  
 S: 4.  
 E: OK. Now I would like you to take another look at this person's FACE on the TV set and mention anything else that we haven't yet talked about. Anything that you can notice about their face or appearance. What else do you see?  
 S: I can't recall anything.  
 E: OK. Fine, you can relax now. I'm going to push the rewind button and rewind the tape. There it's rewinding, going all the way back. It's rewound.  
 This time, I'd like you to watch this videotape in slow motion. It's going to play in very, very slow motion. But even though it's in slow motion it's only going to take two minutes of real time on the clock for this slow motion videotape to play from beginning to end.  
 And I'd like you to recall exactly what happened and anything further you may be able to tell me about the person.  
 Okay, I'm pushing the start button now. It's starting in slow motion and it will take about two minutes in slow motion for this videotape to play and you can just tell me when something appears on that videotape. Okay the tape is running in slow motion. You're doing a very good job. Is there anything else you want to mention that you saw?  
 S: The only thing that I can remember is.. um.. when he was leaning against the pickup.. He kept.. um.. looking to the side.. like for one slide and in the next slide... he was looking the opposite way.. it was like he was turnabout.. almost before proceeding...  
 E: Um..  
 S: And at the end though he was really only able to check.  
 E: OK. And, how sure are you about that?  
 S: 5.  
 E: Um.. hm.. ok. Anything else you noticed?  
 S: Umm.. No.  
 E: That's fine, just relax now. Just let yourself relax, just go relaxed, deeply relaxed. Take a deep breath, a good deep breath, and just go nice and pleasantly relaxed.

#### RECALL 4: May 22<sup>nd</sup>

- E: Okay, so just in your own words, then what did you see in the slides?  
 S: Ahh.. it was a sequence of slides where a woman is window shopping downtown and she gets pick pursued by a young man.  
 E: Um.hm..  
 S: Do you want more detail?  
 E: Um.hm.., how did it sort of all happen?  
 S: Okay she's ahh.. walking down the street window shopping and she meets umm a friend and they chat awhile and look in a store window. And further down there's a man against a pickup truck watching them. And then after her friend leaves then she proceeds on her way. Ahh the man advances towards her and bumps into her causing her to drop her things and then she's picking .. picking them up. Bending down he reaches behind her and into her purse and takes out her wallet.  
 E: Um.hm..

- S: And continues on her way. And she meets two other friends.  
E: Um.hm.. Okay, now how sure are you of these things?  
S: 5  
E: For all of them, eh?  
S: Um.hm..  
E: Okay, and he continues off on his way, you say?  
S: Um.hm..  
E: Okay, now about what time of day did this take place?  
S: Around mid-afternoon, early afternoon.  
E: Um.hm.. and how sure are you of that?  
S: 4  
E: Okay, and, umm..., what actually happened? In.. to summarize in a couple of words what was it that happened?  
S: Um.. it was a pick pocket or a pick purse.  
E: And how sure are you of that?  
S: 5  
E: Okay, and um.. around the actual sight of the incident, ahh.. were there any landmarks that would indicate either where the Suspect had come from or where he might have been going to afterwards?  
S: Possibly a tavern.  
E: Um.hm..  
S: 'Cause I'm thinking of maybe a show with taverns.  
E: Ah. And how sure are you of that?  
S: 4  
E: Okay and where he might have been going afterwards?  
S: Ahh.. possibly a tavern um..  
E: Just to the tavern, eh? Okay, and can you describe the object that was taken?  
S: It was a bright red ahh.. wallet, or check book size wallet, rectangular in shape.  
E: Okay, now how sure are you of that?  
S: 5  
E: For all those things?  
S: Um.hm..  
E: Okay, and then can you describe the Suspect?  
S: Yeah, he. um.. was rather tall, maybe around six foot, his weight would be about 165 to 175 pounds. He had brown wavy hair and a long.. longish brown moustache. Ahh.. in blue denims and a cowboy hat and boots.  
E: Um.hm..  
S: With deep lines on the side of his face. Creases.  
E: Um. hm.. Okay, now how sure are you it was a male?  
S: 5  
E: Okay and about how old?  
S: Um.. early mid thirties.  
E: Um.hm.. and how sure are you of that?  
S: 4  
E: Um.hm.. and how sure are you of the height you mentioned?  
S: 4  
E: And his weight?  
S: 3  
E: And what was his body build?  
S: Medium build.  
E: Um.hm.. and how sure are you of that?

S: 4  
E: Um.hm.. his skin colour?  
S: Um.. there was a slight tan not pale.. not ruddy.  
E: Um.hm.. and how sure are you of that?  
S: 3  
E: Okay and how sure are you of the colour of his hair?  
S: 4  
E: Okay and um.. you mentioned he was wearing cowboy boots, how sure are you of that?  
S: 4  
E: Okay what colour were they?  
S: Tan.  
E: How sure are you of that?  
S: 4  
E: Okay, and you mentioned he was wearing blue denims?  
S: Um.hm.  
E: What do you mean by that?  
S: Ahh.. blue jeans and a jean jacket.  
E: Jean jacket, eh?  
S: Um.hm..  
E: And how sure are you about the jean jacket?  
S: 5  
E: Okay and did you notice anything else about him?  
S: Umm.. the jacket, well it was open and he had ei..either a plaid shirt or a t-shirt under it. I couldn't remember which.  
E: Um.hm.. okay you say the jacket was open, how sure are you of that?  
S: 5  
E: Okay and ahh.. what colour was it?  
S: Blue  
E: Blue?  
S: Denim  
E: Um.hm.. denim, blue denim. How sure are you of that?  
S: 5  
E: Anything else you happened to notice about it?  
S: No.  
E: No? Okay, and you mentioned he was wearing blue denim jeans, how sure are you about that?  
S: 5  
E: What style were they?  
S: Straight cut mens.  
E: And how sure are you of that?  
S: 4  
E: Okay anything else you happened to notice about them?  
S: Um.. no.  
E: Okay, then you mentioned that he.. that he was wearing a shirt.  
S: Um. hm..  
E: How sure are you of that?  
S: 3  
E: And that it was plaid?  
S: 2  
E: And you said, "or it might be a t-shirt," how sure are you of that?  
S: 2  
E: Okay, and um. what colour?

- S: Um. I don't remember.  
E: Okay. Was he carrying anything like a purse or a bag or a satchel?  
S: Umm. no I don't think so.  
E: And how sure are you of that?  
S: 3  
E: Okay, was he wearing anything on his head?  
S: On his head? A hat, a cowboy hat.  
E: And ahh.. how sure are you of that?  
S: 5  
E: And what colour was it?  
S: Ahh.. tan.  
E: And how sure are you of that?  
S: 4  
E: And.. ahh did you happen to notice anything else about it?  
S: Umm.no  
E: Was he wearing anything on his hands?  
S: I don't think so.  
E: Um.hm.. and how would you rate that?  
S: 3  
E: Okay, was he wearing jewellery? Any jewellery?  
S: Umm.. possibly a ring but I'm not sure, a gold band.  
E: Um.hm.. how sure are you of these things?  
S: 1  
E: That it's a ring?  
S: 1  
E: That it's gold?  
S: 1  
E: And that it's a band?  
S: 1  
E: Did you notice what hand it might be on?  
S: No, I don't remember.  
E: Okay, was he wearing anything like glasses?  
S: Umm.. no.  
E: And how sure are you of that?  
S: 4  
E: Was he carrying a parcel or weapons?  
S: No.  
E: And how sure are you of that?  
S: 4  
E: Okay, Right now um.. did you notice anything about his face, what his face looked like?  
S: Umm.. possibly that he hadn't shaved in maybe a day, it wasn't a smooth face and his moustache, long, ahh.. and the creases on the side of his face.  
E: Okay, so how sure are you that he hadn't shaved for a day?  
S: 3  
E: Okay, you mentioned that he had a moustache, how sure are you of that?  
S: Um.hm..5  
E: And that it was brown?  
S: 5  
E: And longish?  
S: 5  
E: Okay, and creases on the face?

S: 5  
E: Okay, now when you say the moustache was longish, what do you mean?  
S: Ahh.. kind of scraggly looking.  
E: Scraggly? And how sure are you of that?  
S: 4  
E: Okay, anything else you noticed about it?  
S: Umm.. no.  
E: Okay, umm.. what was the shape of the face like?  
S: Umm.. oval but I think his chin jutted out slightly.  
E: Okay, how sure are you it was oval?  
S: Umm.. 3  
E: Um..hm.. and that the chin jutted out?  
S: 3  
E: Um..hm.. and ahh.. his forehead?  
S: I couldn't notice it, because of the hat.  
E: Um..hm.. and how sure are you of that?  
S: Ahh..3  
E: Okay. The eyes?  
S: Shifty.  
E: Um..hm.. and how sure are you of that?  
S: Umm..4  
E: Okay. Anything else you noticed about them?  
S: Umm.. no  
E: Okay, the eyebrows?  
S: I couldn't notice.  
E: Um..hm.. his nose?  
S: Umm.. I don't remember.  
E: Okay, his mouth?  
S: I don't remember.  
E: And his ears?  
S: I couldn't see them. I think I'd say I.. I couldn't see his ears pretty much.  
E: Um..hm.. how sure are you of that?  
S: 3  
E: Okay, and his hair style?  
S: Umm.. wavy, not too long in the back, it covered his collar, I think.  
E: Um..hm.. how sure are you that it was wavy?  
S: 3  
E: Okay, and how sure are you it covered the collar in the back?  
S: Umm..3  
E: Okay, now you probably saw him from different points of view, can you think of anything further you might have noticed from the front?  
S: No.  
E: From the back?  
S: No.  
E: From the side?  
S: No.  
E: What sort of a person does he look like?  
S: The cowboy rugged type.  
E: Um..hm.. and how sure are you of that?  
S: 4  
E: Okay, and where do you think he might be found?

S: In taverns, bars.  
E: Okay, and how sure are you of that?  
S: 3  
E: Anything else you might have noticed about him?  
S: Umm..no.  
E: Okay, now you mentioned there were a couple of friends that ah.. approached the lady.  
S: Um..hm..  
E: What sex were they?  
S: Two women.  
E: Um..hm.. and how sure are you of that?  
S: 5  
E: And, about how old were they?  
S: Umm.. there was a taller one and a shorter one. The taller one was older ahh.. early to mid forties and the younger one was early to mid thirties.  
E: Um..hm.. okay and how sure are you of these things?  
S: 3  
E: Um..hm.. and what were they wearing?  
S: Umm.. the taller woman had those plaid pants.  
E: Um..hm.. how sure are you of that?  
S: 4  
E: Um..hm..?  
S: And I can't remember what the other woman was wearing.  
E: Okay, anything else you can think of about them?  
S: I think the shorter one was wearing glasses.  
E: Glasses? And how sure are you of that?  
S: 2  
E: Okay, is that it?  
S: Um..hm..  
E: Okay, fine.

**APPENDIX E**



Transcript of the four recalls of a  
subject in the Standard Experimental  
Induction Condition

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**SUBJECT #6 - male, 21 years.**

**RECALL 1 - March 14<sup>th</sup>**

**EXPERIMENTER (E) -**

All right then, just tell me what you saw in the slides.

**S:** The first one, there was a lady walking along the street.. just walking.

**E:** Um.. hm..

**S:** The second one, was a close up of the same picture... a close up...

**E:** Um.. hmmm.

**S:** The third one, she was greeting someone that we didn't see..

**E:** Um.. hmm.

**S:** The third one, was the friend that she.. that was coming in the other direction. The first one was of them both..

**E:** Umm.. hmm.

**S:** They were talking..

**E:** Um.. hmm..

**S:** And then... she... the first lady she showed something that was in the window layout to the other one.

**E:** Um.. hm..

**S:** Then they left.. one of them.. she went the other way..

**E:** Umm.. hm..

**S:** And.. then she was walking along the street.. and a man passes by.. and he intentionally made her drop her bags.. so.. some things dropped on the ground.. he picked them up and while she was picking them up he went in her purse and got a little red... something like... maybe a... checkbook or something that you would put money in.. He puts it in his coat and.. then.. we..

**E:** Um.. hmm..

**S:** We see him walking up to the street corner. Then there's two ladies that probably cross the street who saw it happen and they go tell the lady that got robbed that she got robbed by this guy.. and ... she was showing which way he was going and... it went like that..

**E:** Umm.. hmm. Ok. Now, how sure are you of these things that you said?

Like first of all that she was walking along the road.. and.. greeted her friend.. and then they talked.. looked in the window.. and then they parted?

**S:** Oh.. 5.. 5 I would say.

**E:** 5 for all of those?

**S:** No. Let's say 4.

**E:** 4? For..

**S:** Yes.

**E:** For any one in particular? Or for all those items?

**S:** OK. For most of them 5 and for maybe one or two... 4. Not quite sure.

**E:** OK. Then maybe I'll do them individually. That she walked along the street?

**S:** 5.

**E:** 5. And that she greeted her friend?

**S:** 5.

**E:** That they talked?

**S:** Uh.. yeah.. 5.

**E:** That they looked in the window?

**S:** 5.

E: And, then they parted?  
S: Yeah.. 5 also.  
E: OK. And, then he came along and looked at her? Or approached her?  
S: 5.  
E: That he bumped into her?  
S: 5.  
E: And, intentionally?  
S: Yes.  
E: OK. That she dropped her parcel?  
S: She dropped her bag, not her purse. That she put down later.  
E: Right.  
S: 5.  
E: 5. And, that everything fell out?  
S: Almost everything.  
E: Objects fell out?  
S: Yes. 5.  
E: OK. That they picked them up?  
S: Yeah. 5.  
E: And, then that he took something? That he reached into her purse?  
S: Yeah.  
E: And got a red?  
S: A red... yeah.  
E: So, how much is it that he went into her purse?  
S: Oh.. a 5. He went into her purse.  
E: 5. And, that it was red?  
S: 5.  
E: And, that it was like a checkbook? Or something to put money in?  
S: Yeah...  
E: 5?  
S: Yeah... 5.  
E: OK. And, that he put it into his jacket?  
S: Um.. hmm..  
E: OK. That's 5?  
S: Yeah.  
E: And, then that he was on a street corner?  
S: Well.. he walked to the street corner.. Yes..  
E: And, that's a...?  
S: 5.  
E: And, that two witnesses were crossing the road?  
S: Umm.. hmm.. Probably yeah.. I assumed that they were across the road because I didn't see them.  
E: Um.. hmm. So how would you rate that?  
S: 5.  
E: And.. uh.. OK.. they talked to her?  
S: 5.  
E: 5. OK. Now, about what time of day would you say this took place?  
S: 2 or 3 o'clock in the afternoon.  
E: Um.. hm.. How sure would you be about that?  
S: A 3.  
E: OK. And, if you had to just make a summary of what happened in this thing... what would you say happened?

- S: Like I would say that the lady got robbed.  
E: Robbed? OK and how would you rate that?  
S: 5.  
E: OK. Now, where this incident took place, was there anything around that might give you some kind of a clue about the fellow... you know about who he might be or where he came from or what he was doing there? Any landmarks?  
S: He came from the Yukon.  
E: The Yukon? What makes you say that?  
S: It was written on the back of his shirt.  
E: OK. The Yukon, eh.  
S: And it was probably near a commercial area... They were on the shopping street or something but where the robbery took place was near houses so it must be near the shopping area because afterwards we saw him.. like on the street corner and there was shops around also.  
E: OK. How sure are you that it was a commercial area?  
S: 5.  
E: And, that it was sort of near houses?  
S: 5. There were houses and stores.  
E: And, that where he went afterwards there were kind of stores and things around?  
S: Yeah.  
E: So that's a 5? Was it?  
S: Yes.  
E: Any other kind of landmarks? Anything else?  
S: No. It could have been in 1972 or something.  
E: 1972? OK. How sure are you of that?  
S: Oh.. 5.  
E: OK. Now... you said that something red was taken? What colour red was it?  
S: Bright red.  
E: Bright, eh? How sure are you of that?  
S: 4, I think... not sure what red... but it looked more like a bright red.  
E: OK. What size was that object?  
S: Ah.. the size of a cheque. Maybe a bit larger.  
E: OK. The size of a cheque. OK. How sure are you of that?  
S: 5.  
E: And the object itself, was?  
S: Oh... probably it was like something that you could open.. two pieces of plastic.. like that.. something like that for cheques or... things you receive from your insurance company.  
E: Uh.. huh.. And, how sure are you of that?  
S: 5.  
E: 5. OK. Now, tell me a bit what this fellow looked like. First of all are you sure it was a fellow?  
S: Yes.  
E: OK. Male, how sure are you of that?  
S: Uh.. 5.  
E: OK. About what age was he?  
S: 27.  
E: How sure are you of that?  
S: 4.  
E: OK, what else can you tell me about him?  
S: Um.. he was maybe 5' 10", 6', probably.  
E: Umm.. hmm.. How sure are you of that?  
S: 4.

E: Umm.. hmm.  
S: He wore a moustache.  
E: Moustache?  
S: Ya.  
E: What kind of a moustache?  
S: I don't know, like turned here, but just a little bit, not too much.  
E: OK, so across the top and turns up, eh? That's what they call like a handlebar, you mean, style?  
S: Yes, but just a little.  
E: Just a small one.  
S: Not a Spani..., not a Mexican one.  
E: OK, across the top and up.  
S: Ya across. He was shaved from the day before.  
E: He was which?  
S: He shaved the day before. He did not shave like in the morning.  
E: Oh.  
S: He was not closely shaved.  
E: Oh so, I mean you could see he was not closely shaved, eh? Not closely shaved?  
S: Yes.  
E: OK, how sure are you of that?  
S: Umm... I'd say 3. I'm not really sure.  
E: OK. And this moustache? The way you described the mousta... How sure are you that there was a moustache?  
S: 5.  
E: 5. And the particular style you picked... described?  
S: 4.  
E: 4, eh? What colour would it be?  
S: Black. He had black hair and a black moustache.  
E: OK, how sure are you it was black?  
S: 5.  
E: 5. And black hair you say too, eh? And that's 5, eh?  
S: They were combed on the side.  
E: They were which?  
S: They were combed on the side.  
E: Combed to one side.  
S: Combed to one side.  
E: OK, how sure are you of that?  
S: 4.  
E: 4, OK.  
S: They are cut off... just before the earlobe.  
E: OK. How sure are you of that?  
S: Uh... I'd say 4 but they were quarter length, here they were cut, they were cut here, and like they had a style, they weren't just strung.  
E: Oh, OK so kind of cut around the ear you mean?  
S: Ya, but not around the ear, like ear length but...  
E: Cut across?  
S: Ya, ya.  
E: At the level of the ear or higher or what?  
S: Uh.. I'd say about a quarter of the ear.  
E: Cut across about one quarter of the ear. OK, how sure are you of that?  
S: 4.  
E: OK, now.

S: He had jeans.  
E: Jeans?  
S: Ya.  
E: What did they look like? How sure are you that they were jeans first of all?  
S: 4.  
E: 4, eh? And what did they look like?  
S: They were really washed out, they were white.  
E: They were...  
S: White.  
E: White.  
S: Really white white, faded.  
E: How sure are you of that?  
S: 3.  
E: OK.  
S: Well also, the jacket was blue.  
E: Blue.  
S: It was like a sports jacket.  
E: Umm.. hmm. How sure are you of that?  
S: Um.. 5.  
E: And that it was blue?  
S: Ya, and the inscription "Yukon" was black.  
E: "Yukon" was black, eh? OK, so how sure are you that it said "Yukon?"  
S: 5.  
E: And how sure are you that the "Yukon" was black.  
S: 4.  
E: 4, eh? OK, anything else you can tell me about the jacket?  
S: Um... It was open.  
E: Open? How do you mean? Like open all the way down or...  
S: Ya.  
E: Far... how open?  
S: It was open all the way down.  
E: Um.. hmmm.  
S: It would have been too awkward to watch.  
E: And how sure are you of that?  
S: 4.  
E: 4, eh? OK, anything else about the jacket or the jeans?  
S: No.  
E: OK. What was he wearing on his feet?  
S: Shoes.  
E: Shoes, and what kind of shoes?  
S: Um.. proba.. work shoes, work shoes or working boots. Probably working boots I'd say.  
E: More working boots you think, eh? How sure are you of that?  
S: 3.  
E: 3. Um.. hmmm. What colour were they?  
S: Tan.  
E: Tan. How sure are you of that?  
S: 3 also.  
E: Um... hmm.. and..  
S: I'm not sure if they really were working boots. If they were working boots I would say 5 the colour was tan, but they were used... they were not brand new.  
E: Used, eh? How sure are you of that?

S: 5.  
E: OK, so how do you want to leave the rating for working boots? You've got it at 3 at the moment?  
S: I'll leave it at 3 because I'm not really sure...  
E: OK  
S: ...what they were, if that's what they were.  
E: OK. Now was he wearing anything under the jacket that you noticed?  
S: Well he was obviously... obviously wearing something but... a white T-shirt probably.  
E: A white T-shirt? OK, and how sure are you of that?  
S: Uh... 3... I'm not really sure about it.  
E: OK. Was he carrying anything like a bag or a purse or anything like that?  
S: No.  
E: No. How sure are you of that?  
S: 5.  
E: Umm... was he wearing anything on his hands?  
S: Like jewellery or something?  
E: Yes.  
S: Not that I noticed.  
E: OK, and how sure are you of that?  
S: 4.  
E: OK, was he wearing any jewellery at all? ... You just didn't notice that?  
S: Ya.  
E: OK, umm... was he wearing anything like glasses or carrying any parcels, or weapons, or... Nothing? No. Glasses?  
S: No.  
E: OK, how sure are you of that?  
S: 5.  
E: 5, and for the parcels?  
S: 5 also.  
E: OK, anything else you can think of that he was wearing? Anything like belts, or hats, or markings on the clothing?  
S: Black stripes here but I'm not sure of that.  
E: So how would you rate that?  
S: I'm just guessing for that because since he has a sports jacket you usually have black stripes, but I'm not sure. I'd say, I'd probably put a 2.  
E: A 2 for that, OK. About what weight would he be?  
S: 160, 170.  
E: 160, 170 and how would you rate that?  
S: 4.  
E: And his body build?  
S: Average.  
E: Average.  
S: Maybe a bit more than average but not that much.  
E: What do you mean by that, "a bit more than average?"  
S: Well, he was in shape.  
E: He was in shape, eh? How would you rate that?  
S: 5.  
E: 5, eh? OK, his skin colour?  
S: Tanned. He was ??white?? but tanned.  
E: Tanned, eh? How sure are you of that?  
S: 4.

E: OK. Now, was he wearing anything else like a hat or anything?  
S: No.  
E: No. How sure are you of that?  
S: 5.  
E: How about the shape of his face?  
S: Oval.  
E: Oval? And how sure are you of that?  
S: 4.  
E: 4, OK. And his forehead? What did his forehead look like?  
S: Um.. he did not have much hair on it, it was quite thick.  
E: Thick?  
S: Ya.  
E: How sure are you of that?  
S: 4.  
E: OK, his eyes?  
S: The colour you mean?  
E: Yes.  
S: Oh, no!  
E: Didn't notice, eh?  
S: No.  
E: Or the shape of his eyes?  
S: They were small.  
E: How sure are you of that?  
S: 3.  
E: 3, eh? Eyebrows, did you notice anything about his eyebrows?  
S: Thick eyebrows.  
E: Thick? Ah.. how sure are you of that?  
S: 3 also.  
E: OK, and what colour were they?  
S: Black.  
E: Black, eh? And how sure are you of that?  
S: 5.  
E: OK, his nose?  
S: Umm... normal. I did not notice anything different about his nose??.  
E: OK, so how sure are you of that, that it was just sort of an ordinary nose?  
S: 3.  
E: 3. OK, now how about.. like his mouth.. his ears.. or his chin?  
S: Um.. um.. ya.. he had a, a large, large smile I think. It sort of went into.. he had a large smile.  
E: How sure are you of that?  
S: 3.  
E: OK, his ears?  
S: They were normal I guess. As I said earlier, he had hair on his ears so I guess they were normal. They weren't too small or too large but quite visibly noticed.  
E: Umm.. hmm. When you say hair on his ear do you mean in the middle of the ear or just close by?  
S: No, no, no, just at, over the ear...  
E: Oh, where the hair was covering it, hair over his ear, right. So you could not really see his ears all that much. And his chin? What was his chin like?  
S: Was a normal chin. It wasn't too long or too small. It was just right.  
E: Umm... hmm. OK, and how sure are you of that?  
S: 4.

- E: OK. Now then, you saw him in different views. OK, for example, you probably saw him from the front, and the side, and the back. Can you tell me anything particularly that may have caught your eye in any of those views?... The front?...
- S: No.
- E: From the side?
- S: Other than mentioned?
- E: Yes.
- S: He had two pockets in his jeans at the back.
- E: Two pockets.
- S: And they were empty.. like they didn't have a wallet or something in it.
- E: And how sure would you be of that?
- S: 4.
- E: That you saw really from the back I suppose, eh?... rather than from the side?
- S: More from the back.
- E: Ya. Anything else you saw from the back?
- S: ... Nothing else that I noticed.
- E: OK, now what sort of person does he look like? Does he look like an artist, or a doctor, or...
- S: No. Probably a factory worker or something.
- E: Umm.. hmm. And how sure are you of that?
- S: I'd say, well 4. Part of me wants to say he was a construction worker since he was built a little bit more than average so... a construction worker.
- E: A construction worker, and how would you rate that?
- S: 4. He didn't work in an office, that's probably for sure.
- E: Not in an office.
- S: Just by looking at him, you could say he works in an office.
- E: OK, so how sure would you be of that, that he wasn't an office worker?
- S: Oh, 5.
- E: 5, eh? And where do you think he might be found, like where would this sort of a person hang out?
- S: Oh, in a tavern or a bar.
- E: Umm.. hmm, and how sure are you of that?
- S: 4.
- E: OK, anything else you can think of about the suspect or the whole thing?
- S: Ah... It was in a small city, that's for sure. Ah... it was probably... spring, from the colours that were around. More spring than winter, and it wasn't summer because he had a coat. And... umm... umm... I don't know of anything else.
- E: OK, so how sure are you that it was a small city?
- S: 5.
- E: Spring?
- S: 5 also.
- E: OK. Now you said some other people saw this happen. Can you describe them to me a bit?
- S: There were two women.
- E: Two women, eh? OK, how sure are you of that?
- S: Ah... that's a 5. At the end, after I saw the three pictures, one of them, I was not sure if it was a male or a female, but at the end I was sure it was a female. So 5.
- E: Umm.. hmm. And ah... can you tell me what their age, size, or clothing might be?
- S: They were maybe in their late twenties, early thirties.
- E: Both of them?
- S: Ya, maybe twenty-five.
- E: OK, how sure are you of that?
- S: 4.



E: OK, and their size?  
 S: 5'6", 5'7".  
 E: Both of them about the same height?  
 S: Ya, I think so.  
 E: OK, how sure are you of that?  
 S: 4.  
 E: OK, and what were they wearing?  
 S: Strange clothes. Uh.. they were like.. they had many colours on them.  
 E: Uh.. huh.  
 S: But they weren't, weren't flashy colours. Ya, they weren't flashy colours like they were darker beige, brown, navy, pale colours. They weren't bright colours.  
 E: Umm... hmm. How sure are you of that?  
 S: 5. And uh.. both of them had something in their hair, like a piece of cloth or something.  
 E: How sure are you of that?  
 S: 4. They had also... jeans or corduroys. They had like ordinary pants. Jeans or corduroy.  
 E: How sure are you of that?  
 S: 3. Like they were ordinary pants, not pants to go out or something like that.  
 E: Umm.. hmm.  
 S: They had stockings, they didn't have socks.  
 E: Umm.. hmmm. How sure are you of that?  
 S: 3. Did I mention they had stockings? That's about it.  
 E: OK, did anyone else see what happened do you think? Did you notice anyone else on the sides who might have seen it?  
 S: No.  
 E: OK, that's fine then.

#### RECALL #2 - March 21<sup>st</sup>

E: Just tell me what you saw in the slides.  
 S: It was the story of a lady who was shopping in a downtown area of a small city where she met a friend. They looked at some.. ah... windows, some store windows, and afterwards her friend left and she kept on walking until she left the store.. the store area and was in the house area where she crossed a man who bumped into her voluntarily. So she dropped her bag and he helped her pick up the things but at the same time he... he got from her purse a little checkbook or something. It looked like a red checkbook. Then he left and two girls saw what was happening and waved at the lady to tell her that she had been robbed. And, then we see the lady showing the guy, and it's like this.  
 E: OK, so how sure are you of all those things you told me?  
 S: 4.  
 E: 4. For all of them?  
 S: Umm... no, no. Just for the last one, 4.  
 E: The last one 4. OK?  
 S: The rest 5.  
 E: The rest 5, eh? OK, I'll put my circle here. Alright, now about what time of day do you think this happened?  
 S: Hmm... um.. about ten o'clock in the morning.  
 E: How sure are you of that?  
 S: 4.  
 E: OK. And in a couple of words, what really happened?  
 S: Well, the lady got robbed.  
 E: OK, and how sure are you of that?

S: 5.  
E: OK. Now around the area where this incident took place were there any landmarks that might give us some clues about the suspect?  
S: Ah.. he probably was from the Yukon. He had.. it was written on the back of his coat, "Yukon."  
E: Umm.. hmm.. And how sure are you that it was "Yukon" written on the coat?  
S: 5.  
E: OK, any other kind of landmarks around the site of the incident?  
S: It was a small city.  
E: Small city, how sure are you of that?  
S: 5 because of the way the stores were made and the streets, it looked like a small city.  
E: OK. Where did the suspect go after the incident?  
S: He went to the shopping area because we saw stores where he was.  
E: How sure are you of that?  
S: 5.  
E: OK, and what was it that was actually taken?  
S: Ahh... a little checkbook or something that looked like a checkbook. Red.  
E: OK, what colour of red?  
S: Umm.. bright red.  
E: Bright red, eh? And how sure are you of that?  
S: 4.  
E: 4. And checkbook?  
S: 5. Something that looked like a checkbook, 5.  
E: Right, and the size?  
S: About the size of a checkbook, the same size.  
E: Right. OK. Now, the suspect was themselves. What sex was the suspect?  
S: It was a male.  
E: Male. OK, how sure are you of that?  
S: 5.  
E: And what else can you tell me about his appearance?  
S: He was about 5'10", 5'11". He wore a black moustache with black hair. And he wore jeans with a... OK all this is 5. He had a blue coat, a sports coat which is a 4.  
E: A blue sports coat?  
S: Blue 4, sports coat, 5.  
E: What else can you tell me about the coat?  
S: It was open.  
E: Open? Like at the neck you mean?  
S: No, it was open all the way.  
E: Oh, open down the front? OK. How sure are you of that?  
S: 5.  
E: And what kind of fastenings was on it then?  
S: Snaps.  
E: Snaps. And how sure are you of that?  
S: 5.  
E: Anything else about the coat? What sort of style was the coat?  
S: Sport coat.  
E: How long was it?  
S: Ah... along your ribs.  
E: Hip length, eh? How sure are you that it was hip length?  
S: 4.  
E: OK. And you mentioned jeans. Can you tell me a bit about the jeans?  
S: They were old jeans.

- E: Old? Umm.. hmm. What colour?  
S: They were pale blue.  
E: Pale blue. And how sure are you that they were old?  
S: 4.  
E: And the colour?  
S: 4.  
E: Umm... hmm. Anything else about the jeans?  
S: No.  
E: No. OK, what about his weight?  
S: About 160, 170.  
E: Umm... hmm. And how sure are you of that?  
S: 4.  
E: His age?  
S: About 25.  
E: And how would you rate that?  
S: 4.  
E: His body build?  
S: He was quite well built.  
E: Well built, eh? What do you mean by that?  
S: Umm.. he was a bit above average.  
E: Above average, and how sure are you of that?  
S: 4.  
E: And that he was well built?  
S: 4 also.  
E: OK. Umm... how about his skin colour?  
S: It was tanned.  
E: Tanned. And how sure are you of that?  
S: 4 also.  
E: OK, you mentioned his hair colour was black, Anything else you can tell me about the hair, in terms of hair style?  
S: They weren't curled, they were straight.  
E: Straight. OK, how sure are you of that?  
S: 5.  
E: OK. Ah... anything else about the hair?  
S: No. Well, they were cut about half the length of the ear.  
E: Came half way down the ear. OK, and how sure are you of that?  
S: 4.  
E: 4, OK. What was he wearing on his feet?  
S: Working boots.  
E: Working boots. And how sure are you of that?  
S: 3.  
E: 3, OK. And what colour were they?  
S: Tan.  
E: Tan, eh? And how sure are you of that?  
S: Ahh... 4. But they were not new, they were used.  
E: Used, eh? And how sure are you of that?  
S: 5.  
E: 5? OK, was he wearing anything under the coat?  
S: Probably a shirt.  
E: Shirt. And how sure are you of that?  
S: 3.

E: And what kind of shirt or what colour?  
S: Probably blue.  
E: And how would you rate that?  
S: 2.  
E: 2. And the style?  
S: I don't know. 1.  
E: OK, was he carrying anything, like a bag or a purse or anything like that?  
S: No.  
E: Shoulder bag, anything?  
S: No.  
E: No, and how sure are you of that?  
S: 4.  
E: OK. Was he wearing anything on his hands?  
S: No.  
E: How would you rate that?  
S: 4.  
E: Anything on his head?  
S: No.  
E: How would you rate that?  
S: 5.  
E: OK, any jewellery?  
S: No, don't think so. 4.  
E: OK, glasses?  
S: No.  
E: Weapons?  
S: No.  
E: Parcels?  
S: No.  
E: Nothing, eh? So how would you rate those last two?  
S: 5.  
E: 5, eh? OK, now tell me a bit about what his face looked like. The shape of the face?  
S: It was ah.. oval.  
E: Oval, how sure are you of that?  
S: 5.  
E: 5, OK.  
S: It was, there was nothing specific about it like a nose too large or big ears or anything. It was pretty much normal. There was nothing that should have been noticed.  
E: Nothing really stood out.  
S: Big black eyes, but...  
E: Black eyes?  
S: Maybe because he had black hair so...  
E: How would you rate that?  
S: Big black eyes... 3.  
E: How about the forehead?  
S: Umm.. it was pretty low.  
E: Low? And how would you rate that?  
S: 3.  
E: And the eyebrows?  
S: Thick.  
E: And how sure are you of that?  
S: 3.

- E: And the colour of them?  
S: Black.  
E: And how would you rate that?  
S: 4.  
E: 4, OK. The nose?  
S: Normal. It did not look too long or too short, but it looked like a regular nose.  
E: Umm.. hmm. Ahh..  
S: Pretty sure. 4.  
E: 4. OK, the mouth?  
S: Maybe a bit small.  
E: Small.  
S: Yes.  
E: And how would you rate that?  
S: 3.  
E: The ears?  
S: Normal. Nothing strange.  
E: Um.. hmm. And how would you rate that?  
S: 3. No, 4. 4.  
E: OK, chin?  
S: Maybe a bit long.  
E: Long, OK. And how would you rate that?  
S: 3.  
E: 3, OK. Any special markings on his face?  
S: No.  
E: And how sure are you of that?  
S: 2.  
E: OK. And you mentioned that he had a black moustache. Anything else you can say about the moustache? Kind of moustache?  
S: It was a bit along the top here. Just a little bit, not that much.  
E: So it went up on either side.  
S: Ya, just a little bit.  
E: And how sure are you of that?  
S: 4.  
E: Any other facial hair?  
S: No.  
E: OK. Now you saw him in different views, right? From different viewpoints. So can you think of anything else from the facial view?  
S: No.  
E: From the side view?  
S: Maybe black stripes on his coat.  
E: Black stripes on his coat. How sure are you of that?  
S: 3.  
E: 3. OK, and from the back view?  
S: His jeans have two back pockets.  
E: Jeans, two pockets. And how sure are you of that?  
S: 4.  
E: Uh.. huh.  
S: But they were empty. He didn't carry a wallet or anything.  
E: How sure are you of that?  
S: 4 also.  
E: Anything else from the back view?

- S: There were letters on his coat.  
E: What were those letters like?  
S: You mean the style of the letters?  
E: Yes, or size, colour?  
S: They were about three inches each. Black.  
E: How sure are you of the size?  
S: 5.  
E: And, that they were black?  
S: 5 also.  
E: Umm.. hmm. Anything else about them?  
S: Umm...  
E: OK. What sort of person does he look like?  
S: Maybe a construction worker or something.  
E: OK, and how sure are you of that?  
S: 5.  
E: OK, and where do you think the suspect might be found?  
S: In the downtown area.  
E: OK, downtown. How sure are you of that?  
S: 5.  
E: OK. Anything else about the suspect?  
S: No.  
E: OK, now you mentioned that there were a couple of people that saw this. So could you just briefly tell me what sex they were.  
S: Both female.  
E: OK, and how sure are you of that?  
S: 5.  
E: About what age were they?  
S: Ahh.. 25.  
E: For both of them?  
S: Ya.  
E: And how sure are you of that?  
S: 4.  
E: OK, and about what size?  
S: 5'5", 5'6".  
E: For both of them?  
S: Ya.  
E: And how sure are you of that?  
S: 4.  
E: And anything about their clothing that might be useful?  
S: It had many colours on it.  
E: Many colours. How sure are you about that?  
S: 5.  
E: OK. And the...  
S: The cloth on the hair or something.  
E: Cloth on the hair. OK, how sure are you of that?  
S: 4.  
E: 4, OK. Now I'm going to turn this tape off.

**RECALL #3 - March 21<sup>st</sup>**

- E: You have now become go deeply relaxed... go deeply in hypnosis... that your mind has become

very receptive to what I say. I would like you to think back to last week on March 14<sup>th</sup> when you were last here in the hypnosis lab and observed a series of slides. Relax and concentrate and try to visualize what you saw in the slides. Try to remember what happened. And when you are ready to remember the details, you will find that you can remember them, and you will be able to describe them to me. Think back to last week, when you were here in the lab observing the slides and tell me what you remember seeing in that session.

S: There was a lady who was sort of walking down the road in a small city and she was walking on the sidewalk. Then the next picture she was in approximately the same scene except it was a close up. Then the third scene, there was.. she was waving at someone. Then we see her with her friend.. someone she meets there.. and afterwards she is.. they both stand there together looking at some windows.. windows of shops and after awhile her friend leaves and she is alone.

E: OK, now how sure are you of these things you've said? How would you rate them?

S: All 5's.

E: All 5's, OK. And then she carried on you said, and then?

S: She went, ah... now she was in the house where there are some things. It is no longer only the shopping areas. It is a very special area. And she is walking along the sidewalk and there is a man who is coming along near.. towards her. And he is walking and he has a big smile on his face. And when he is getting closer.. and gets nearer to her and he voluntarily bumps into her and she drops her bag. And she puts her purse down.. while picking up the things that fell from the bag. He is helping her but at the end, while she was finishing picking up the things, he moved her purse and picked up a red checkbook, or something that looked like a checkbook, approximately the same size.

E: Umm.. hmm. And how sure are you of these things you told me?

S: 5.

E: That it was a residential area?

S: Ya.

E: That he had a big smile?

S: Ya.

E: OK, and the other things was a 5?

S: Yes.

E: OK, and then after he took the red object, what happened next?

S: Well, he put it inside his coat. In the pocket on the right side of his coat. Said goodbye to her.. but before he said he was very sorry and laughed.

E: He said he was sorry?

S: Ya, and he laughed. And he was.. and he laughed.

E: Umm.. hmm.

S: There we see him on the corner of the street and she is .. now it's in the commercial area of the city. It's the back.. we see, his back view. Where he wears a blue coat with black stripes and "Yukon" is written on the back of his shirt. They are capitals and the letters are about 2 to 2-1/2 inches long and 1 inch large. And they are about 3 inches below the shoulder.. or 2 inches maybe.. 2 or 3.

E: OK. Umm.. umm.. now how sure are you that he put the object into the right pocket? Was that pocket on the inside or outside of the jacket?

S: Inside, inside the coat.

E: Uh.. huh.. and how sure are you of that?

S: 5.

E: OK. And when the lady picked up her purse?

S: Well she had to.. to pick it when she.. she got knocked by the person.

E: And he was on the street corner in a commercial area?

S: 5.

E: OK, and then on the back you said it was a blue coat?

S: Yes.  
E: How sure are you of that?  
S: 5.  
E: And that it had black stripes?  
S: 5. Only one stripe was one each arm.  
E: Oh, only on each arm.  
S: Ya, one stripe on one arm, one stripe on the other arm. They were about 1 inch thick... 3/4 inch... 1 inch thick.  
E: And how sure are you of that?  
S: 4.  
E: OK. And, then you mentioned that it had "Yukon" printed on the back?  
S: Yes.  
E: How sure are you of that?  
S: 4.  
E: And the original size of the letters 2-1/2 by about 1 inches wide?  
S: Yes.  
E: And how sure are you of that?  
S: 4 also.  
E: And that they were black?  
S: 5.  
E: And that they were about 2 inches below the shoulder?  
S: 4.  
E: 4, eh? OK. Now, then what happened?  
S: Then we see two ladies walking on the other side of the street. At first we don't know what they are but we were asked that. They are two ladies.. they are on the other side of the street where she got robbed. And they cross the street to go and tell the lady that she got robbed because she didn't notice. And ahh.. as they get closer.. one is longer than the other one, ya, because she is standing on the sidewalk. I am not sure how tall is that one but I think from the pictures that one was taller than the other.  
E: OK, and how sure are you about that?  
S: 5.  
E: And it was two women?  
S: 5.  
E: Umm.. hmm. And then what happened to them?  
S: Seems that they were both telling her that she got robbed and telling and showing what route that the robber went. But it seems strange because she did not know.. the lady who got robbed.. which one he was, when they showed her that he was going away.  
E: Umm.. hmm. How sure are you of that?  
S: 4.  
E: OK. Now the time of this incident, what was that?  
S: It was either late in the morning, like ten o'clock, or around four o'clock in the afternoon.  
E: Um.. hmm. How sure are you about ten in the morning?  
S: 4.  
E: Or that it was four in the afternoon?  
S: 4 also. I'm not sure but it was not earlier that's for sure. It was later on.  
E: Umm.. how sure are you that it was not in the early night?  
S: 5.  
E: OK. And in a couple of lines, what actually happened?  
S: The lady got robbed.  
E: Umm.. hmm. And how sure are you of that?  
S: 5.



- E: OK. Now around the scene of the incident, can you could tell me anything to give us a clue about the Suspect? Anything you saw? Any landmarks?
- S: He was from low class. He was probably a construction worker or working in a shop or something like that. He definitely worked around the area, that's for sure.
- E: Umm.. hmm.
- S: Also, he may be found in the commercial area since that's where we saw him the last time, and ahh.. he left. In fact there was a tavern across the street.
- E: Uh.. huh.
- S: There was a tavern across the street.. so he may have gone there.
- E: OK, and how sure are you that there was a tavern across the street?
- S: 4. I'm pretty sure.
- E: Umm.. hmm. OK. So you're saying that he might be where he went afterwards?
- S: Ya.
- E: And the object that was taken?
- S: It was probably a checkbook or something like that. Maybe a large wallet but it didn't look like a wallet.
- E: Umm..hmm. And the size?
- S: The size of a checkbook. Maybe a bit bigger, larger but it was mostly the size of a checkbook.
- E: Umm.. hmm. And how sure are you of these things?
- S: 4.
- E: OK. Um... Now this time I would like you to concentrate and think carefully and to visualize the FACE of the Suspect in the slides. Describe the face carefully.
- S: Normal face.
- E: Normal?
- S: Oval
- E: Oval? How sure are you of that?
- S: 4.
- E: Umm.. hmm.
- S: And he had black hair all on the side. It was straight but half way down the ear. he had sideburns but not long sideburns. They were sort of cut off... even.
- E: OK. How sure are you that the hair was straight?
- S: 5.
- E: And that it cam half way down the ear?
- S: 5.
- E: OK.
- S: And the moustache.
- E: The moustache.
- S: It was black. It was almost straight. It was maybe just a little bit turned on the top here, but just a little bit. Not too much.
- E: OK. So how sure are you that he had a moustache?
- S: 5. He had a moustache, that's for sure.
- E: And it was black?
- S: 5 also.
- E: Straight?
- S: Umm... 5.
- E: Turned up at the edges?
- S: 5.
- E: OK. Can you tell me anything else about the shape of the face?
- S: Umm... Not sure... He had a.. had an oval forehead but not that much.. just a little bit more than usual.
- E: And how sure are you of that?

S: Um.. 4.  
E: OK. And what did his eyes look like?  
S: They were dark but he had eyebrows that were thick, black.  
E: OK, and how sure are you that they were dark eyes?  
S: 3. But I am only saying that probably because, since he had black eyebrows, black hair, a black moustache, he probably had that black... they were dark eyes. Otherwise, I would think they were lighter.  
E: Umm.. hmm. And you say the eyebrows were thick, how sure are you of that?  
S: 4.  
E: And they were black?  
S: 5.  
E: OK. What about his nose?  
S: Same place as it always was! It was pretty much the same everywhere. It didn't have much, anything in particular that someone would have noticed or was irregular.. if it was long or large.  
E: OK, so how sure are you of that?  
S: 5.  
E: OK, his mouth.  
S: It was medium. It was not too large and it was not too small. His smile did not seem to show, show all his teeth. His lips covered, maybe a bit of his hair went over the front and top.  
E: OK. So how sure are you that it was a medium size?  
S: It was a medium size, 4. But for sure maybe.. maybe 3 but I'm not that sure.  
E: OK.  
S: But he didn't have ah... super white teeth like he.. you would have seen it. I would have noticed if they were that.. that white.  
E: OK. So how sure are you that it wasn't really white teeth?  
S: 4.  
E: Umm.. How about his ears and chin?  
S: Ah.. that, the ears they were pretty much almost at the side. They were neither small or excessively big. Ya, and ah..  
E: How sure are you of that?  
S: 5. Ah.. the chin was a bit long. Nothing very long just medium, less than that but it was not flat. It wasn't correction.  
E: And how sure are you of that?  
S: Ah.. 4.  
E: OK. Now try to visualize the total person. The total person of the Suspect and describe to me.. as accurately as you can their.. appearance.  
S: OK, we'll start from the front where he has working shoes, working boots. They were tan. They were used. he had jeans that covered the back of the boot. They were pale jeans with two back pockets. I'm very sure of everything. That was 5.  
E: Um.. hmm.  
S: Ahh.. he was wearing a black sports coat, a black like hockey players wear so that there were no inscriptions in the front like what they wear in the game. In the back it was "Yukon" and two black stripes on each side of each arm. There were two snaps on the wrists also and he had a shirt under his coat.  
E: OK, now with all those thing with the jacket, how sure are you of that?  
S: 5.  
E: And with the things you said about the jeans, how sure are you of... Oh? You said 5 for all those but you were sure...  
S: 5, 5.  
E: 5, eh? OK, now you mentioned shirt?  
S: Yes.

- E: What can you tell me about the shirt?  
S: It was, well a lot of squares on it... All the same. A lot of squares.  
E: Squares? What colour was it?  
S: It was a.. mainly a brown, or orange-brown. Things like that.  
E: How sure are you of the squares?  
S: 3. Not sure of the them... maybe some squares.  
E: And the colour.  
S: And the colour... 3 also. I'm not really sure about the shirt.  
E: OK. And was he carrying anything like a purse or bag, or...  
S: Ahh... He had both hands in his coat.. like that's all.. his pocket.  
E: His hands in his pocket?  
S: His hands in the pocket of his coat, and that's all. ???  
E: How sure are you that he had his hands in his pocket?  
S: 4.  
E: And that he wasn't carrying anything?  
S: 5.  
E: OK. Was he wearing anything on his hands?  
S: He was what?  
E: Yes?  
S: No.  
E: No. How sure are you of that?  
S: 5.  
E: Was he wearing any jewellery?  
S: No.  
E: How sure are you of that?  
S: 3 because I never usually notice jewellery, usually only see it on women.  
E: Was he wearing anything on his head?  
S: On his head?  
E: Umm.. hmm.  
S: No.  
E: OK, and ah.. was he wearing glasses or carrying a weapon, parcel?  
S: Just now it came... maybe he had a cowboy hat but I'm not sure.  
E: Uh.. huh. How would you like to rate that?  
S: 3. I'm not sure at all.  
E: What colour was his hat?  
S: It was probably brown.  
E: And how sure are you of that?  
S: 3. Also, I'm not really sure.  
E: OK. Was he wearing any glasses?  
S: No.  
E: And how sure are you of that?  
S: 5.  
E: Was he carrying any weapons or parcels?  
S: No.  
E: And how sure are you of that?  
S: 5 also.  
E: Alright. Now you keep saying "he". Are you sure it was a man?  
S: Sure.  
E: And how sure?  
S: 5.  
E: About what age?

S: His age was 25, no maybe 27, 27.  
E: Umm.. hmm. And how sure are you of that?  
S: 4.  
E: And his height?  
S: 6 feet high, 5'11".  
E: And how sure are you of that?  
S: 5.  
E: And his weight?  
S: 160, 170 pounds.  
E: And how sure are you of that?  
S: 4. I'm not sure of exact weight.  
E: His body build?  
S: Ya, there was body build. He wasn't fat or too skinny. He had.. he had muscles but not too much that it would show.. but he was built.  
E: And how sure are you of that?  
S: 5.  
E: His skin colour?  
S: He was tanned.  
E: And how sure are you of that?  
S: 4.  
E: And his hair colour?  
S: Black.  
E: And how sure are you of that?  
S: 5.  
E: 5. OK. Um.. Now I would like you to visualize the Suspect from the SIDE and describe to me anything that would help to identify the Suspect.  
S: Well, he had black stripes on his blue coat. And...  
E: How sure are you of that?  
S: 5.  
E: And...  
S: And... the guy was walking with his hands in his pocket.  
E: And how sure are you of that?  
S: 5 also.  
E: OK. And then I would like you now to concentrate on the Suspect's BACK and describe to me, as vividly as you can, anything that would help to identify the Suspect.  
S: He had two back pockets on his jeans. The leather jacket is blue and on the back is written "Yukon". As I said earlier, the letters are 2-1/2 inches long by 1 inch large, 1 inch to 1-1/2 inch large. They are two inches from the shoulders and that's about it. Maybe his hair was just touching the neck.  
E: Hair touching the neck?  
S: Along the cuff of the shirt not the jacket.  
E: Not the jacket. How sure are you that the hair was touching the jacket?  
S: 3. Not for sure, but probably it was just a little bit.. for it was about the same length.  
E: And, always you told me about the jacket being blue in the back and with the letters and all that?  
S: 5.  
E: OK, anything else you saw from the back?  
S: No.  
E: Any other thing that you noticed about the Suspect that might be useful in finding him?  
S: He looked happy.  
E: He looked happy. OK, how sure are you about that?  
S: 4.

- E: OK. Now once again, concentrate carefully and see if you can remember any other details about the person's FACE which might help to identify them. Tell me anything that you remember.
- S: I'm not sure but I think he had a scar...
- E: Scar?
- S: ... on his left, left edge. I don't remember really. It wasn't that long or large, it was across the side. I'm not sure, maybe just an impression that I had of his face.
- E: And, how would you rate that?
- S: 3, I'm not sure.
- E: OK, anything else you can think of?
- S: He was not closely shaved. Like he did not shave in the morning, like it wasn't too near.
- E: How sure are you of that?
- S: 4.
- E: Very good. Now, just relax and rest there for a few seconds... enjoy the relaxing... warm... pleasant... and comfortable sensation of being in hypnosis. Just relax and take a good deep breath. Just go nicely relaxed.

#### RECALL 4 - March 28<sup>th</sup>

- E: So can you tell me then.. in your own words, what happened?
- S: There was a lady on a street area.. in a shopping area.. near a store. Then we see her from close up on the second slide. Then she meets a friend. They look at.. ahh.. some windows of stores and her friend leaves.
- E: How sure are you of that?
- S: All 5's.
- E: OK.
- S: Her friend leaves. OK, then she's still walking and she.. she goes in a housing area. She leaves the shopping area and then we see her from the back and there is a guy coming. OK, the guy bumps into her with his elbow and she drops her bag.
- E: OK, how sure are of all of those things?
- S: All 5.
- E: OK.
- S: And they start picking things up and ah.. as they are doing it the man puts his hand in her purse and gets a little red checkbook.. or something that looks like a checkbook. That's also a 5.
- E: Umm.. hmm.
- S: Then he smiles at her and leaves. Then we see him and we see two other people calling from across the street who saw what was happening.. and they cross the street to her. And then she looks at.. OK.. then we see the guy. He is in the shopping area near.. OK.. across from the tavern. And on the back of his jacket.. can I say it now or late on when I have to describe it?
- E: As you wish.
- S: OK, he was wearing a jacket with "Yukon" on the back.
- E: OK. So how sure are you of these things you just said?
- S: 5.
- E: OK. About what time of day do you think this took place?
- S: It was around umm... 10 o'clock in the morning or 2 o'clock in the afternoon.
- E: How sure are you of that?
- S: 4.
- E: And in a couple of words what actually happened?
- S: A lady got robbed.
- E: And how sure are you of that?
- S: 5.
- E: OK. And...
- S: Also, well apart from the shopping area to the housing area there is nothing else I can think of.

E: OK, how sure are you of that?  
S: About 5.  
E: OK and then where the suspect went?  
S: He went back to the shopping area but he didn't come from the shopping area. At least we know that. And so...  
E: How would you rate that?  
S: Ahh.. 5.  
E: OK, anything else? No? And the object that was taken, can you tell me a bit more about it?  
S: It was like a checkbook, a red checkbook.  
E: And how sure are you about that?  
S: 5.  
E: And what size was it?  
S: About the size of a checkbook, maybe a bit larger, but the size of a checkbook.  
E: How sure are you of that?  
S: 5.  
E: OK, now I'll ask you to describe the suspect.  
S: Male.  
E: Are you sure of that?  
S: Yes.  
E: How sure?  
S: 5.  
E: OK.  
S: Ahh... dark hair, dark moustache, dark eyes. For the hair and moustache 5 for the moustache, no eyes! 4.  
E: Umm.. hmm.  
S: And also...  
E: About how old was he?  
S: 27.  
E: How sure are you of that?  
S: 4.  
E: Umm.. hmm.  
S: He wore a sports jacket, ahh... blue.  
E: What kind of blue?  
S: Dark blue or not dark blue?  
E: I don't remember. It wasn't a pale blue and it wasn't dark. It wasn't very noticeable.  
E: OK. And how sure are you that it was a sports jacket?  
S: Ah... 5.  
E: And that it was a sports jacket?  
S: Ya. Although I'm saying sports association or something like that.  
E: That type, eh?  
S: Ya.  
E: OK, so how sure are you of that?  
S: 5. It had snaps but it was open.  
E: Snaps but open. How sure are you of that?  
S: 4.  
E: OK, anything else about the jacket?  
S: It had white stripes on the arm about 1 inch large, white lines.  
E: They were white?  
S: Yes.  
E: How sure are you of that?  
S: 3.

E: You mentioned earlier that there was "Yukon" on the back?  
S: Yup.  
E: What did that look like?  
S: It was written in black. They were glued or sewed on the jacket and they were about 2 inches long by 1 inch large, maybe 1 inch below the shoulders. And it was something.  
E: OK, how sure are you of those things you just told me about the letters?  
S: 4.  
E: 4. Is that for all the things?  
S: Ya. Well 5 for Yukon.  
E: 5 for Yukon. You're sure of that?  
S: Ya.  
E: OK, umm.. alright. What else was he wearing?  
S: Jeans.  
E: Jeans?  
S: Ya. They were pale, pale jeans.  
E: Pale?  
S: Ya. And two pockets in the back but they were empty. He wasn't carrying any wallet or anything. And he had working boots, old working boots.  
E: OK, how sure are you about that?  
S: 4.  
E: For the working and the old?  
S: Ya.  
E: And the jeans, how sure are you that they were pale?  
S: 4.  
E: Two pockets in the back?  
S: 4.  
E: And the pockets were empty?  
S: 3.  
E: And that they were jeans?  
S: 5.  
E: So can you tell me anything else about the boots?  
S: Umm... no, other than working boots.  
E: OK. Now was he wearing anything under the jacket?  
S: I think a shirt.  
E: A shirt? And how sure are you of that?  
S: 3.  
E: And what kind of a shirt?  
S: Ahh... It was lined all the way with squares on it. I'm not sure.  
E: And how sure are you of that?  
S: 3.  
E: And what colour?  
S: Ah.. maybe beige.  
E: Beige? And how would you rate that?  
S: 2.  
E: Was he carrying anything like a bag or a shoulder purse?  
S: No, he wasn't.  
E: No? How sure are you of that?  
S: 5.  
E: OK, was he wearing anything on his hands?  
S: No.  
E: How would you rate that?

S: 5.  
E: Any jewellery?  
S: No.  
E: And how would you rate that?  
S: 4.  
E: Glasses?  
S: No. 5.  
E: Ah.. weapons, parcels?  
S: No.  
E: How would you rate that?  
S: 5.  
E: Was he wearing anything on his head?  
S: No. 5.  
E: About how tall was he?  
S: Ahh... 5 foot 10, 5 foot 11.  
E: And how would you rate that?  
S: 4.  
E: His weight.  
S: 160, 170.  
E: How sure are you of that?  
S: 4 also.  
E: His body build?  
S: Ahh.. A bit more than average.  
E: And what do you mean by that?  
S: Umm... He was physically... his muscles were in good shape. He looked in good shape.  
E: OK, and how sure are you of that?  
S: 4.  
E: His skin colour?  
S: Tan.  
E: And how would you rate that?  
S: 4.  
E: OK, now what about his face? The shape of his face?  
S: Oval.  
E: Oval? How sure are you of that?  
S: 4.  
E: OK, anything else about the shape of his face?  
S: Ahh...  
E: His forehead?  
S: Pretty wide, no not pretty wide, maybe just a little bit more than average.  
E: OK, how sure are you of that?  
S: Ahh... 4.  
E: His eyes you mentioned were dark. Anything else about his eyes?  
S: No.  
E: His eyebrows?  
S: He had thick eyebrows.  
E: Thick?  
S: Yes. A 3.  
E: And, what colour were they?  
S: Dark. 5.  
E: And, what about his nose?  
S: It was ordinary. Not long or short.



E: How sure are you of that?  
S: 5.  
E: What about his mouth?  
S: Ordinary - a 5.  
E: And his ears? What did you notice?  
S: Just ordinary. A 5.  
E: And, what about his chin?  
S: It was strong... a bit.  
E: And how sure are you of that?  
S: Ahh... 4.  
E: Now, what about his hair?  
S: It was combed on one side. Sort of came to mid-ear.  
E: Combed on one side? How would you rate that?  
S: Yes. A 5.  
E: And, that it came to mid-ear?  
S: 4.  
E: Did you notice anything else about the hair?  
S: It was styled.  
E: Styled? How would you rate that?  
S: 4.  
E: Did he have any special markings on his face?  
S: No.  
E: And, how sure are you of that?  
S: 4.  
E: Was there anything else you noticed about his face?  
S: He had a dark moustache... it turned up at the sides like that...  
E: How sure are you that he had a moustache?  
S: 5.  
E: And, that it was dark?  
S: 5.  
E: And, the type of moustache?  
S: 4.  
E: Any other facial hair?  
S: No.  
E: OK. Now you saw the Suspect in different views... from different viewpoints. Can you think of anything else you might have seen from the front view?  
S: No.  
E: From the side view?  
S: No.  
E: Anything from the back view?  
S: No.  
E: OK. What sort of a person does he look like?  
S: A construction worker... manual worker...  
E: And, how sure are you of that?  
S: 5.  
E: OK, and where do you think the Suspect might be found?  
S: In a tavern... across the street...  
E: And, how sure are you of that?  
S: Well... not too sure... 3.  
E: OK. Anything else you can think of?  
S: No.  
E: OK. That's fine.

**APPENDIX F**

SUBJECT NO. \_\_\_\_\_  
 RECALL NO. \_\_\_\_\_

EYEWITNESS RECALL RECORD AND CONFIDENCE RATING FORM

INSTRUCTIONS: After recording the Subject's eyewitness testimony, obtain a confidence rating for each item. 5 means absolutely positive, 4, 3, and 2 are intermediate levels, and 1 means guessing.

CONFIDENCE

1 2 3 4 5  
 guessing absolutely positive

A. INCIDENT

- |  |       |   |   |   |     |
|--|-------|---|---|---|-----|
| 1. Sequence of Events                  |       |   |   |   |     |
| a) Victim (V) walks along street       | _____ | 1 | 2 | 3 | 4 5 |
| b) V greets friend                     | _____ | 1 | 2 | 3 | 4 5 |
| c) V and friend talk                   | _____ | 1 | 2 | 3 | 4 5 |
| d) V and friend windowshop             | _____ | 1 | 2 | 3 | 4 5 |
| e) V and friend part                   | _____ | 1 | 2 | 3 | 4 5 |
| f) Male (Suspect) (S) approaches V     | _____ | 1 | 2 | 3 | 4 5 |
| g) S bumps V                           | _____ | 1 | 2 | 3 | 4 5 |
| h) V drops parcel                      | _____ | 1 | 2 | 3 | 4 5 |
| i) Objects fall out; V sets purse down | _____ | 1 | 2 | 3 | 4 5 |
| j) S and V pick up objects             | _____ | 1 | 2 | 3 | 4 5 |
| k) S reaches into purse                | _____ | 1 | 2 | 3 | 4 5 |
| l) S pulls out object                  | _____ | 1 | 2 | 3 | 4 5 |
| m) S puts object into jacket           | _____ | 1 | 2 | 3 | 4 5 |
| n) V picks up purse                    | _____ | 1 | 2 | 3 | 4 5 |
| o) V waves at S; S looks at V          | _____ | 1 | 2 | 3 | 4 5 |
| p) S at street corner                  | _____ | 1 | 2 | 3 | 4 5 |
| q) S crosses road                      | _____ | 1 | 2 | 3 | 4 5 |
| r) V looks into purse                  | _____ | 1 | 2 | 3 | 4 5 |
| s) Two witnesses (W) cross road        | _____ | 1 | 2 | 3 | 4 5 |
| t) W approach V                        | _____ | 1 | 2 | 3 | 4 5 |
| u) W and V look up street              | _____ | 1 | 2 | 3 | 4 5 |
| v) W talk to V                         | _____ | 1 | 2 | 3 | 4 5 |
| 2. Time of incident                    | _____ | 1 | 2 | 3 | 4 5 |
| 3. What actually happened...           |       |   |   |   |     |
| a) assault                             | _____ | 1 | 2 | 3 | 4 5 |
| b) robbery                             | _____ | 1 | 2 | 3 | 4 5 |
| c) other                               | _____ | 1 | 2 | 3 | 4 5 |

SUBJECT NO. \_\_\_\_\_

RECALL NO. \_\_\_\_\_

## 4. Location of incident

- |                                |       |   |   |   |   |   |
|--------------------------------|-------|---|---|---|---|---|
| a) sidewalk/street             | _____ | 1 | 2 | 3 | 4 | 5 |
| b) landmarks                   | _____ | 1 | 2 | 3 | 4 | 5 |
| - stores                       | _____ | 1 | 2 | 3 | 4 | 5 |
| - tree/bushes                  | _____ | 1 | 2 | 3 | 4 | 5 |
| - signs                        | _____ | 1 | 2 | 3 | 4 | 5 |
| - cars/trucks                  | _____ | 1 | 2 | 3 | 4 | 5 |
| - licence                      | _____ | 1 | 2 | 3 | 4 | 5 |
| c) where S went after incident |       |   |   |   |   |   |
| - street                       | _____ | 1 | 2 | 3 | 4 | 5 |
| - stores                       | _____ | 1 | 2 | 3 | 4 | 5 |
| - signs                        | _____ | 1 | 2 | 3 | 4 | 5 |
| - cars/trucks                  | _____ | 1 | 2 | 3 | 4 | 5 |
| 5. What was taken?             |       |   |   |   |   |   |
| a) object                      | _____ | 1 | 2 | 3 | 4 | 5 |
| b) size                        | _____ | 1 | 2 | 3 | 4 | 5 |
| c) colour                      | _____ | 1 | 2 | 3 | 4 | 5 |

## B. ADDITIONAL INFORMATION ABOUT INCIDENT

- |       |   |   |   |   |   |
|-------|---|---|---|---|---|
| _____ | 1 | 2 | 3 | 4 | 5 |
| _____ | 1 | 2 | 3 | 4 | 5 |
| _____ | 1 | 2 | 3 | 4 | 5 |

## C. WITNESS (ES) - Did anyone else see what happened?

- |                                       |       |   |   |   |   |   |
|---------------------------------------|-------|---|---|---|---|---|
| 1. Boys and bicycle                   | _____ | 1 | 2 | 3 | 4 | 5 |
| a) age                                | _____ | 1 | 2 | 3 | 4 | 5 |
| b) size                               | _____ | 1 | 2 | 3 | 4 | 5 |
| c) clothing (colour, style, features) | _____ | 1 | 2 | 3 | 4 | 5 |
| _____                                 | 1     | 2 | 3 | 4 | 5 |   |
| 2. Female I - Straw hat               |       |   |   |   |   |   |
| a) age                                | _____ | 1 | 2 | 3 | 4 | 5 |
| b) size                               | _____ | 1 | 2 | 3 | 4 | 5 |
| c) clothing                           | _____ | 1 | 2 | 3 | 4 | 5 |
| 3. Female II - Poncho                 |       |   |   |   |   |   |
| a) age                                | _____ | 1 | 2 | 3 | 4 | 5 |
| b) size                               | _____ | 1 | 2 | 3 | 4 | 5 |
| c) clothing                           | _____ | 1 | 2 | 3 | 4 | 5 |
| 4. Male - near bushes                 | _____ | 1 | 2 | 3 | 4 | 5 |

SUBJECT NO. \_\_\_\_\_

RECALL NO. \_\_\_\_\_

**D. SUSPECT (A) - APPEARANCE**

- |                                       |       |   |   |   |   |   |
|---------------------------------------|-------|---|---|---|---|---|
| 1. Sex                                | _____ | 1 | 2 | 3 | 4 | 5 |
| 2. Age                                | _____ | 1 | 2 | 3 | 4 | 5 |
| 3. Height                             | _____ | 1 | 2 | 3 | 4 | 5 |
| 4. Weight                             | _____ | 1 | 2 | 3 | 4 | 5 |
| 5. Body Build                         | _____ | 1 | 2 | 3 | 4 | 5 |
| 6. Skin Colour                        | _____ | 1 | 2 | 3 | 4 | 5 |
| 7. Hair Colour                        | _____ | 1 | 2 | 3 | 4 | 5 |
| 8. Clothing (colour, style, features) |       |   |   |   |   |   |
| a) Jacket/coat                        | _____ | 1 | 2 | 3 | 4 | 5 |
| b) slacks/jeans                       | _____ | 1 | 2 | 3 | 4 | 5 |
| c) shoes/boots                        | _____ | 1 | 2 | 3 | 4 | 5 |
| d) shirt/sweater                      | _____ | 1 | 2 | 3 | 4 | 5 |
| e) purse/bag                          | _____ | 1 | 2 | 3 | 4 | 5 |
| f) hat                                | _____ | 1 | 2 | 3 | 4 | 5 |
| g) gloves/mitts                       | _____ | 1 | 2 | 3 | 4 | 5 |
| h) jewellery                          | _____ | 1 | 2 | 3 | 4 | 5 |
| i) special features                   | _____ | 1 | 2 | 3 | 4 | 5 |
| - glasses                             | _____ | 1 | 2 | 3 | 4 | 5 |
| - parcel/weapons                      | _____ | 1 | 2 | 3 | 4 | 5 |
| 9. Facial Features                    |       |   |   |   |   |   |
| a) shape of face                      | _____ | 1 | 2 | 3 | 4 | 5 |
| b) forehead                           | _____ | 1 | 2 | 3 | 4 | 5 |
| c) eyes                               | _____ | 1 | 2 | 3 | 4 | 5 |
| d) eyebrows                           | _____ | 1 | 2 | 3 | 4 | 5 |
| e) nose                               | _____ | 1 | 2 | 3 | 4 | 5 |
| f) mouth                              | _____ | 1 | 2 | 3 | 4 | 5 |
| g) ears                               | _____ | 1 | 2 | 3 | 4 | 5 |
| h) chin                               | _____ | 1 | 2 | 3 | 4 | 5 |
| i) hairline/style                     | _____ | 1 | 2 | 3 | 4 | 5 |
| j) special markings                   | _____ | 1 | 2 | 3 | 4 | 5 |
| k) facial hair                        | _____ | 1 | 2 | 3 | 4 | 5 |
|                                       | _____ | 1 | 2 | 3 | 4 | 5 |

SUBJECT NO. \_\_\_\_\_

RECALL NO. \_\_\_\_\_

**E. ADDITIONAL INFORMATION ABOUT SUSPECT****1. Did you see the S in different views, for example,**

a) front view \_\_\_\_\_ 1 2 3 4 5

\_\_\_\_\_ 1 2 3 4 5

b) side view \_\_\_\_\_ 1 2 3 4 5

\_\_\_\_\_ 1 2 3 4 5

c) back view \_\_\_\_\_ 1 2 3 4 5

\_\_\_\_\_ 1 2 3 4 5

**2. What sort of a person does he look like?**

\_\_\_\_\_ 1 2 3 4 5

**3. Where do you think the suspect might be found?**

\_\_\_\_\_ 1 2 3 4 5

**F. OTHER**

\_\_\_\_\_ 1 2 3 4 5

\_\_\_\_\_ 1 2 3 4 5

\_\_\_\_\_ 1 2 3 4 5

B. Tallant,

March, 1984.

**APPENDIX G**

## **EXPERIMENTAL INDUCTION**

### **REISER TECHNIQUE**

#### **PRE-INDUCTION**

Today, in this session, you are going to experience hypnosis. Have you ever been hypnotized before?.... What was the experience like?.... What else do you know about hypnosis?....

Hypnosis has been used in eyewitness investigations to stimulate memory. The data on hypnosis and eyewitness reports suggests that hypnosis can enhance memory. We are, therefore, going to use hypnosis in this session in order to see how it will improve your recall of the slides you saw in the last session. Hypnosis is really a state of relaxation and an altered state of consciousness where you are neither asleep nor unconscious, but know everything that is happening all the time. Nobody is controlling you, you can open your eyes, talk, ask questions, or come out of hypnosis at any time. The way it works is that it helps you relax to the point where you can focus your attention more centrally on what we are talking about. Because of your relaxed state, you are able to tap subconscious levels of the mind more easily. The relaxation, plus access to the subconscious levels of the mind, is what makes it easier for people to recall, fairly accurately, the details of what they have seen.

The hypnotic procedure will consist of an initial relaxation phase, followed by a recall period to help you to remember more details from the slides that you saw last week. The hypnosis will be videotaped and what you recall will be recorded from this microphone. Do you have any questions?

Then let us begin.

#### **INDUCTION**

Now sit back comfortably in the chair. Allow your arms to relax on the sides of the chair and your hands on your lap. That's fine. Now I am going to tell you how to feel and experience hypnosis.



**EYE ROLL**

I am going to put my finger on top of your head, like so, and I'd like you to look up right at it as if you're looking through the top of your head, like that. And you're going to look right at my fingers, eyes all the way up. Higher, look up as high as you can,.... all the way,.... that's good, good,.... more and more. That's good, pretty good. Once more, - do it once more, all the way up, as high as you can.... you're doing well, all the way up, all the way up. That's a three plus squint, that's very good.... that's fine. Now take a deep breath, that's good. Now let your eyes close.

**RELAXATION**

Now, keep your eyes closed, and as you let your breath out, just relax your entire body, let your body go nice and relaxed, just nice and relaxed.... that's good. Great. Okay, now I'd like you to breathe in deeply and exhale slowly, breath in deeply and exhale slowly,.... that's good, that's good. And with each breath in, you are breathing in relaxation, and exhaling tension. And you can become more and more relaxed, more and more relaxed with each breath that you take. You'll find yourself relaxing physically and mentally, your whole body and mind relaxing more and more.... with each breath that you take.

And let me explain, as you continue breathing that way, how this works because it's no mystery and as I said before, you can understand everything I am saying and no matter how deeply you relax and go into hypnosis, you'll always be able to hear what I'm saying and answer questions or ask questions if you want to and know everything that's going on.

The deep breathing is important in hypnosis just as it is in Yoga, meditation, Zen, and other relaxation exercises because it pulls more oxygen into your lungs. That oxygenates the blood and carries away carbon dioxide and other waste materials. It improves your circulation to your hands, your feet and your brain.

You may notice, after a few minutes, as many people do, a tingling sensation in your hands and your feet, and you may notice that your hands and fingers and your toes, may feel warm and heavy or light and floating. Any of these feelings are perfectly

normal as you continue relaxing and exhaling tension, that's fine. Very, very good.

I'd like you to relax all the muscles of your body, which will enable you to feel even more comfortably relaxed. And just let all of your muscles, large and small, all of your ligaments, tendons, go very, very relaxed, from the top of your head to the tips of your toes, very, very relaxed. From the top of your head to the tips of your toes, large and small, just continue relaxing more and more with each breath that you take. That's fine. And just continue to breathe in relaxation and exhale tension, with each breath that you take, you can feel the tension, draining away as you relax more and more easily, and comfortably, and securely. And you notice a couple of interesting things happening as you relax.

You notice that your body quiets down, and the tension drains away. Like water running down-hill, gravity flows from the upper part of your body into the lower part, and from the lower part into your feet, from your feet, out of your body, leaving you feeling more and more comfortable and secure and relaxed. With each breath that you take, you are relaxing more and more all the time.

You may notice too, as many people do, that as your body relaxes with each breath that you take, that your mind relaxes also, because with your eyes closed, and with you concentrating on what I'm saying, and listening to my instructions, your brain can slow down and relax. It doesn't have to work as hard and it, in turn, sends relaxation messages to the nervous system, central nervous system, the autonomic nervous system, and the other parts of your body, all of your organs and muscles and tissues and cells. It says that it is all right to relax, and slow down. So your heart rate slows down and your metabolism slows down.

All of these functions indicate a state of heightened relaxation, more and more comfortable and relaxed and secure. And it's a very, very pleasant feeling, as you allow yourself to experience that nice, drowsy, yet alert state of relaxation and hypnosis and it feels so nice. That's fine. You're doing very nicely.

#### **AWARENESS OF RIGHT HAND**

I'd like you to pay attention now, for a couple of minutes as you continue

relaxing with each breath that you take, to your right hand for just a moment, and you will notice some very interesting things as you pay attention to it. You'll notice that you can feel the fabric of your clothes through the fingertips of your right hand, and you may notice the quality of the fabric, the coarseness of it, on your fingertips.

And, it's even more interesting to notice, as you focus your attention on your right hand and fingers, that you can feel the heat from your leg coming through your clothes to your fingertips, you can sense the heat in your fingertips and that's kind of interesting because you didn't notice that before. And then you may notice, in a moment, or so, that there will be an increased sense of warmth in your right hand as the circulation improves. You may notice a tingling sensation increasing in the fingers in your right hand in one or more of the fingers and you may notice, in a moment or two, that one or more of the fingers of your right hand will begin tightening up and twitching slightly. And your little finger is twitching slightly and that's fine.

And you may notice other fingers twitching also. And your ring finger is twitching now, and your middle finger and your forefinger and then your thumb. You may notice that all of the fingers of your right hand will begin feeling more and more weightless and light and then your hand, your fingers and your hand and your arm will feel lighter and lighter, and more and more weightless.

### **ARM LEVITATION (BALLOON)**

From your fingertip, here (*s t r o k i n g*), up your arm all the way to your shoulder, it will now begin to feel lighter and more and more weightless. It will be as if your hand and your arm are like a large balloon of your favourite color, filled with helium gas, which is lighter than air, allowing the balloon to float upward toward the blue sky, and the warm summer sun, and the white fleecy clouds.

And the balloon begins to feel lighter and lighter and lighter, you may notice then that one or more of the fingers of your right hand will begin gently lifting upward, slowly at first and then faster, and faster, and faster as they feel lighter, and lighter and lighter.... They're beginning to drift upward now more and more, with each breath that you take as they feel lighter and lighter.... Drifting upwards, that's fine, more and more

weightless, more and more weightless, as it begins drifting upward, higher and higher and higher.

### PAUSE

That's a very interesting experience you've had and you can feel some tightness in your arm as your subconscious activates the autonomic nervous system, the proper muscles, ligaments and tendons that will raise your hand and your arm with no conscious effort required on your part and it's a very interesting experience. It's very interesting and quite normal and it's getting lighter and lighter and drifting higher and higher as it feels lighter and lighter. And faster now, moving up a little bit more quickly, faster and faster as it feels lighter and lighter. That's fine, you're doing very nicely and now it can drift there all day long. It could drift there all day long if it wanted to and you wouldn't feel any tiredness at all in that hand and arm. It would drift there like that lazy, light, weightless balloon in that blue summer sky, feeling very, very comfortable. And you're doing very well, you're doing an excellent job.

### ARM RIGIDITY

Now, in just a moment, I'm going to tug very lightly on your right wrist, and when I do, your right hand will become a fist and your right arm from your shoulder all the way down will stiffen up and get stiff and rigid, your elbow will lock and your arm will feel like a rigid, tough, steel bar. Rigid, tough and unbending, and that will be fine. That will be an interesting experience also. That arm will be so steely and rigid and tough and unbending that I could hang on there if I wanted to, and it still, wouldn't bend, and that would be perfectly fine.

(Tug wrist ---- Hold arm fixed above and below the elbow)

Okay, fine, rigid, tough. That's excellent. I'm going to count to three, and when I reach three, I'd like you to very slowly begin lowering that steel bar arm about three degrees at a time, sort of like a cogwheel, a few degrees at a time, back to your leg, .... where it will again feel perfectly normal in every way, except that you may be at least five times as deeply relaxed as you are right now.... You will be at least five times as

deeply relaxed as you are now, and you'll feel very secure and comfortable and at ease and you'll have a very excellent feeling. One, two, three.

Perfectly normal in every way. If you'd like, you can open those fingers and allow them to relax on your leg, very normal, and you're very, very relaxed, very relaxed and doing a fine job. You're doing very well.

You will remain deeply in hypnosis until I ask you if you would like to come out of hypnosis. You will experience many things - just as long as I ask you to. And you will be able to listen and to follow my instructions carefully - you will be able to open your eyes and speak to me when I speak to you, and still remain deeply in hypnosis.

Now, I'd like you to imagine yourself on the third floor of a building, and this can be an office building or any kind of building you like, whatever is comfortable for you. And you're going to be walking down three flights of stairs in this building. In a moment, when I tell you, and when you get down to the basement of this building, there'll be a room there and it will have some filing cabinets in that room, and I'm going to ask you to go into that room and look up something in one of the filing cabinets. But right now you are on the third floor of this building and I'd like you to see yourself in your mind's eye on the third floor and you're about to start down, walking down the stairs.

You can walk fairly rapidly, and you see yourself now taking hold of the handrail and you are walking down the first flight of stairs, from the third floor to the second floor. You are halfway down, and you are three-fourths of the way down, and you are now approaching the second floor and making a turn and then you start down the stairs that are going down from the second floor towards the first floor.

And you start down and you are walking down towards the first floor, and you are half-way down, three-fourths of the way down, and you are down at the first floor. You make the little turn around the landing to start down the stairs going from the first floor to the basement. And you see yourself walking down the stairs to the basement and you are halfway down, and you are three-fourths of the way down and now you are down in the basement of the building. It's a well-lighted, comfortable basement.

## **MEMORY ROOM**

**You see a door nearby, and that's the door to the filing room, that has the filing cabinet of memories. You open the door now, you are opening the door to the filing room of memories, and you're going into the room. You see a filing cabinet with the date..... on it, that is the date of your last session here in this laboratory. In that filing cabinet there is a videotape cassette that contains an exact, accurate and vivid recording of everything that you experienced and saw, heard or felt on the particular date when you were here, looking at the slides, here in the hypnosis laboratory.**

**I'd like you to look over toward the far side of this file room and you'll notice a video cassette player on a table and above it is a TV screen that looks pretty much like a set that you've looked at before. It looks familiar to you and you know how to operate it easily.**

**Now this videotape of memory from that date is being put into the videotape player, and being turned on. The TV set is being turned on. There's a very comfortable chair, much like the chair you're sitting in right now, with a high back. It's very relaxing and very comfortable to sit in that chair and in just a moment, when I count to three, the TV set is going to turn on and you're going to watch this videotape. Its going to be an exact replay of everything that you saw in the slides on.....**

**You are going to be able to sit in your chair, very relaxed and comfortable and this will be like watching a documentary film on television. It will be kind of interesting.**

**You'll stay in your chair relaxed and comfortable at ease and able to watch that videotape accurately, vividly and in great detail and you'll be able to describe to me those things that we are interested in on the documentary videotape. We can put it into slow motion, we can run it backwards, we can zoom in and have closeups on anything in any frame of the film of the videotape, whether it's a face or a car or a license plate or anything like that. As that zoom lens goes in on that object or person, it will become clearer and clearer and more vivid and accurate and you'll be able to see that and describe it in great and accurate detail, and that will be fine.**

### **WATCHING THE VIDEOTAPE**

Okay, the videotape is now in the machine and the machine is turned on. You will see yourself sitting in that comfortable chair, in front of the TV screen that's connected to the videotape machine. The TV screen is being turned on, the set is lighting up, and in just a moment you 'll be watching the videotape.

One, two, three... the videotape is starting and I'd like you to describe to me what you are seeing. Describe what is happening. Just let it unfold as you see it happening.

**(Subject gives a free recall of the slides)**

### **OPTIONAL ZOOM-IN OF INCIDENT**

Now, I would like to stop, I'm going to stop this videotape and I'd like you to sit in that comfortable chair in the memory room and I'd like you to look at the videotape where I stop it and take a good calm accurate look at what is happening. You will be able to zoom-in, freeze the frame and describe the INCIDENT to me as you continue looking at it, seeing it clearly, accurately and vividly. Okay, I'm going to turn the videotape back to that point once more and stop it. All right, now take your time, look carefully at the frame of that incident, and begin to describe to me exactly what you see.

**(Subject recalls details of incident)**

### **ZOOM-IN OF SUSPECT'S FACE**

That's very good. Now, this time, while you're sitting comfortably here in the memory room, I would like to stop the videotape. I would like you to look closely at the videotape where I stop it and zoom-in on the FACE of the suspect. Describe, very carefully, the face of the person in front of you.... the face of the person in the incident you have just described.

Concentrate and see the face very, very clearly, accurately and vividly with the frame stopped. I'd like you to describe it to me as you continue looking at it, seeing it clearly, accurately and vividly. I'm going to turn the videotape back to that point once

more and stop it. Now, look at that frame of that face right in front of you. Now describe the FACE that you see.

**(Subject describes face. Focus attention on individual facial features - hair - forehead - eyes - eyebrows - nose - mouth - chin - lips - facial hair, etc).**

### **ZOOM-IN OF ENTIRE PERSON**

Now direct your attention to the TV frozen frame and look at the ENTIRE PERSON and describe to me - as accurately and vividly as you can their....

**(Focus attention on age - height - weight - body build, clothing, etc.).**

### **ZOOM-IN OF DIFFERENT VIEWS**

Now I'd like you to take another look at the suspect from the SIDE and describe to me - as accurately as you can, anything that would help to identify the suspect.

**(Subject describes sideview)**

Now I'd like you to zoom-in on the suspect's BACK and describe to me as vividly as you can anything that would help to identify the suspect.

**(Subject describes backview)**

Now I'd like you to take another look at this person's FACE on the TV set and mention anything else that we haven't yet talked about, anything that you can notice about their face or appearance. What else do you see?

**(P A U S E)**

Fine, you can relax now. I'm going to push the rewind button and rewind the tape. There its rewinding, going all the way back. It's rewound.

### **SLOW MOTION**

This time, I'd like you to watch this videotape in slow motion. It's going to play in very, very slow motion. But even though it's in slow motion it's only going to take



two minutes of real time on the clock for this slow motion videotape to play from beginning to end.

And I'd like you to recall exactly what happened and anything further you may be able to tell me about the person.

Okay, I'm pushing the start button now. It's starting in slow motion and it will take about two minutes in slow motion for this videotape to play and you can just tell me when something appears on that videotape. Okay the tape is running in slow motion. You're doing a very good job. Is there anything else you want to mention that you saw?

### **( P A U S E )**

That's fine, just relax now. Just let yourself relax, just go relaxed, deeply relaxed. Take a deep breath, a good deep breath, and just go nice and pleasantly relaxed.

### **POST-HYPNOTIC SUGGESTION**

After you've left the laboratory today you will be able to remember everything that happened while you were in hypnosis in this session. You will be able to remember everything with complete vividness and clarity. You may even find that more or new details from the slides will come to your mind, details that you will be able to remember clearly and which will stay in your mind.

### **DEHYPNOTIZATION**

Now, you are going to leave the memory room, that's right, you're out of there. You're back here in the lab now, you're feeling very, very secure and comfortable and normal in every way. Later on you will feel that this has been a very interesting experience. You may find yourself sleeping better, feeling more relaxed and more comfortable with yourself since the hypnosis experience.

Now, in just a moment I'm going to count up to the letter "E" and, when I do, you can open your eyes and become fully alert and awake, out of the hypnotic state,

feeling clear-headed, refreshed, relaxed, perfectly normal in every way. Feeling good, having had a very interesting and good experience.

The image of the suspect that you had in mind, you may keep in mind and this will have just merely refreshed your memory.

"A", coming alert slowly,

"B", more and more awake,

"C", more and more alert.

"D", more and more, and

"E", eyes opening, feeling very comfortable  
and good.

Well, that was hypnosis. Now what do you think about that?

Beverlea Tallant  
March, 1984.

**APPENDIX H**

## **EXPERIMENTAL INDUCTION STANDARD TECHNIQUE**

### **PRE - INDUCTION**

Today, in this session you will be experiencing hypnosis. How often have you been hypnotized before? ... What was the experience like? ... What else do you know about hypnosis? ...

Hypnosis has been used to enhance memory in some eyewitness investigations. The data suggests that in some studies hypnosis appears to enhance memory while in other studies it does not appear to effect recall at all. We are, therefore, going to use hypnosis today to see whether it will have any effect or not on your ability to remember details of the slides you saw in the last session.

Hypnosis is really a deep state of relaxation in which you feel very relaxed and comfortable, however, are fully aware of everything that happens around you. While hypnotized you have control over the types of responses you make, you can open your eyes, speak to me when I speak to you or move around without disturbing hypnosis in any way. Most people find that hypnosis can help them to relax and experience things more vividly. It will be interesting for you to learn what effect hypnosis may have on your ability to remember the slides from the last session.

The hypnotic procedure will consist of an initial relaxation phase, followed by a recall period to see what you remember from the slides you saw in the last session. The hypnosis will be videotaped and what you recall will be recorded from the microphone. Do you have any questions?

Then let us begin.

### **INDUCTION**

Now sit back comfortably and allow your arms to relax on the sides of the chair. That's fine.

### **FOCUS and EYE CLOSURE**

Now look at the orange dot on the back of the door. Just begin staring at it. In the meantime, I am going to give you some simple instructions which will help you to experience hypnosis. You'll find that you can quickly learn to follow these instructions and to experience the things I describe to you. You will find that you will be able to experience these things with greater vividness ... and with greater intensity than you did at first.

As you stare at the dot on the wall, you may find that occasionally your gaze may wander. And that your vision may even blur. If this happens, simply refocus your eyes and continue staring evenly at the dot on the wall.

**RELAXATION**

Now take a deep breath in, and hold it ... hold it until it starts to feel uncomfortable and then, when it starts to feel uncomfortable, just let it out slowly .... PAUSE .... You will find that you are starting to experience a comfortable feeling .... a feeling of well-being begins to develop as you continue to rest in the chair. Just looking at the dot on the wall, listening to my voice. Now take another deep breath and hold it .... listening to my voice. Now take another deep breath and hold it...

Notice the feeling of tightness and tension in your chest and abdomen .... and then, as it starts to feel uncomfortable, just as you did before, let it out very slowly .... PAUSE .... Notice that with breathing out .... with letting the tension out of your lungs .... you become even more aware of a feeling of comfort and well-being settling over you.

Just sink deeper into the chair, and focus your attention closely on feelings of relaxation in various parts of your body .... in your head and your neck, in your arms and in your legs, in your chest and in your back. And just breathe freely and evenly and deeply .... freely, evenly and deeply, not too quickly, not too slowly. Just at a comfortable rate for you to notice that relaxation increases gradually as you breathe out.

You may even be aware of the walls of your chest growing looser.... just rest there for a moment experiencing the sensation. Continue relaxing your chest so that feelings of warmth and comfort radiate to your back and your shoulders and your neck and your arms and your legs.

You're probably starting to notice certain changes in the dot on the wall .... changes that occur from staring at it for so long. Sometimes the dot on the wall looks like its moving up and down, or from left to right. Sometimes it may not look like a coloured dot on the wall, but a small hole in the wall. At other times it might seem like a coloured patch just a few inches in front of the wall. You may see some of these things or even all of these things. Whatever you see, just continue staring at the dot .... continue listening to my voice. Continue to become more deeply relaxed, more deeply relaxed.

And as you watch the dot on the wall, your eyelids become heavier and heavier and your eyes are becoming tired from staring. Your eyelids start to feel very tired and heavy, as you sit there breathing freely and evenly and deeply .... breathing in, breathing out freely, evenly, deeply. The eyelids are becoming so heavy, so tired that soon they will just close of their own accord, as if they were coated with a lead paste .... as if there were magnetic fields in the eyelashes drawing the eyelashes together.

Concentrate now, even more closely on feelings of relaxation and comfort in various parts of your body. First of all, think of relaxation in the muscles of your left arm .... the hand, the fingers of the left hand, the left forearm .... the left upper arm .... the left shoulder. Think of relaxation in each of these areas and as you think of the relaxation, the muscles become progressively more relaxed.

Then .... relax the muscles of your right arm .... the right hand, the fingers of the right hand, the

right forearm, the right upper arm, and the right shoulder. And then .... relax the muscles of your neck .... your chest .... your back. Relax each of these muscle groups .... the neck .... the chest .... the back. And, as you relax these muscles, your facial muscles will also relax and loosen of their own accord. Then relax the stomach muscles by doing this .... tighten your stomach muscles .... make your abdomen hard .... and then, let the tension out .... notice the feeling of well-being that comes with relaxing your stomach .... like a gentle massaging action all over your stomach and even up to your chest.

Then relax the muscles of your legs .... the right leg .... the right foot .... try to feel it in the toes of your right foot .... and then the right calf .... the right thigh. Then the left leg .... the left foot .... the toes of your left foot .... the left calf .... and the left thigh.

Just thinking about relaxation in these areas causes the muscles to become more relaxed and you may even feel an interesting thing happen. That the feelings of relaxation you feel in each of these areas of the body start to spread and irradiate so that they may seem to join up like parts of a jigsaw puzzle and you feel a deep feeling of overall relaxation .... of contentment and of well-being permeating the whole of your body.

And your eyes will probably have closed now from concentrating so carefully on the dot on the wall, but, if they haven't, just close them gently now of your own accord and take a deep breath in and hold it and then, when it starts to feel uncomfortable just as you've done before .... just let it out slowly.

With your eyes closed, you are ready to experience hypnosis .. to experience it more profoundly .. but you will find an interesting thing is happening. That no matter how deeply relaxed you ever feel, no matter how deeply in hypnosis you ever feel, your mind is always clear. You're always aware of my voice and of what I am saying to you. You are completely aware of my voice and of what I am saying to you. You are completely aware of everything that is happening around you even though you are deeply relaxed .... deeply in hypnosis.

#### **AWARENESS OF RIGHT HAND**

I'd like you to pay attention now to your right hand, and when you do, you may find that some interesting things happen to it. You may find, as you concentrate on your right hand, that it begins to feel very relaxed, very relaxed. And then, gradually, you may become aware that your right hand is beginning to feel warmer. The warmth gradually spreads through your hand .... warmer and warmer, then to your thumb and then to your fingertips. Your hand will probably feel very relaxed, very warm, and very pleasant. And now, you will probably find that the warmth changes to a tingling sensation in your hand.

And, when this happens, you may even notice that your fingers begin to feel twitchy. First your fingers and then your thumb, until your hand feels pleasantly restless. And gradually, you may find that your fingers and hand begin to feel lighter and lighter and more and more weightless. And, as you

continue to concentrate on your right hand, it will probably feel very, very light.

### **ARM LEVITATION (Balloon)**

Your arm and shoulder may begin to feel light too, all the way up, until your entire arm feels light. It may seem as if a balloon is gradually lifting your arm and hand very gently up into the air. A balloon .... filled with helium air .... tugging gently at your wrist and slowly lifting your arm and hand up into the air. You will probably find that your arm is lifting very gently, very slowly up into the air. Gradually, as the balloon soars into the air, your arm will follow it and quickly, more quickly follow it up into the air. That's good .... very good .... your arm is feeling lighter and lighter as it follows the balloon into the air .... more and more weightless. Your arm will probably feel like it is floating now, gently floating in the air .... held there only by the balloon which floats on the air.

### **PAUSE.**

You may find that you are having a very pleasant and interesting experience .... And you, may even begin to notice that the muscles and tendons in your arm seem to tighten up, and .... gradually, with no effort on your part, you may find that your hand begins to rise very slowly from the arm of the chair. It feels very relaxed and light, as if a balloon were tugging it up into the sky, and it may gradually drift higher and higher into the air, feeling lighter and lighter. And it may float even higher now, drifting up into the sky where it could easily drift all day long. It may feel like it could drift there like a lazy, weightless balloon in a blue summer sky, feeling very, very comfortable.

### **ARM RIGIDITY**

Now, in just a moment, I'm going to lightly touch your right wrist, and, when I do, you may find that your hand will curl up into a fist .... and your right arm from your shoulder all the way down may begin to feel tighter. It may even seem to become stiff and rigid. You may find that your elbow may lock and your whole arm may feel as if it has become a rigid, tough, steel bar. It could even, if you allow it to happen, feel rigid, tough and unbending. It could possibly feel so stiff and rigid and tough that I could hand on it, if I wanted to, and it would not bend .... TOUCH WRIST .... That's fine. Now I'm going to count to three and when I reach three, I'd like you to gradually lower your arm a few degrees at a time, until it once again reaches the arm of the chair and your lap .... where it will again feel perfectly normal, relaxed and comfortable in every way .... And you may even feel that you are more relaxed and more comfortable and more deeply hypnotized than before .... You will feel very relaxed and comfortable and secure and deeply in hypnosis and it will be a very pleasant experience. One .... two .... three ...

And now your arm and hand and fingers will have returned to their previously normal and relaxed

position.

And now, you will remain deeply in hypnosis until I ask you if you would like to come out of hypnosis. You will experience many things .... just for as long as I ask you to experience them. And you will be able to listen and to follow my instructions carefully .... and you will be able to open your eyes, if necessary, and still remain in deep hypnosis. You will be able to speak to me when I speak to you and still remain in deep hypnosis.

You can now go even deeper into hypnosis. Say to yourself .... just by thinking it .... "Now I am going deeper and deeper". Think it to yourself. And imagine yourself standing at the top of an escalator. Visualize the scene of the escalator .... of the steps moving down .... and picture the moving hand rail. Count backwards slowly from ten to zero, imagining, as you count that you are stepping onto the first step of the escalator and standing with your hands on the railing while the steps move down carrying you deeper and deeper into hypnosis. You can plan it so that you reach zero just as you reach the bottom and step off the escalator. It will take you about thirty seconds.

**PAUSE .... 30 seconds**

#### **RECALL OF SLIDES**

You have now become so deeply relaxed .... so deeply in hypnosis .... that your mind has become very receptive to what I say. I would like you to think back to last week on \_\_\_\_\_ when you were last here in the hypnosis lab and observed a series of slides. Relax and concentrate and try to visualize what you saw in the slides. Try to remember what happened. And when you are ready to remember the details, you will find that you can remember them, and you will be able to describe them to me. Think back to last week, when you were here in the lab observing the slides and tell me what you remember seeing in that session.

(Subject gives a free recall of the slides)

#### **OPTIONAL RECALL OF INCIDENT**

Now, I would like you to concentrate once again and think very carefully of the **INCIDENT** you witnessed in the slide series. Please describe it as completely and accurately as you can.

(Subject recalls details of incident)

#### **RECALL OF SUSPECT'S FACE**

Now, this time I would like you to concentrate and think carefully and to visualize the **FACE** of



the suspect in the slides. Describe the face carefully.

**(Subject describes face - focus attention on individual facial features - hair - forehead - eyes - eyebrows - mouth - chin - lips - facial hair, etc.)**

#### **RECALL OF ENTIRE PERSON**

Now try to visualize the total person and describe to me .... as accurately as you can their ....

**(Subject describes entire person - focus attention on age - height - weight - body build - clothing, etc.)**

#### **RECALL OF DIFFERENT VIEWS**

Now I'd like you to visualize the suspect from the **SIDE** and describe to me anything that would help to identify the suspect.

**(Subject describes sideview)**

Now I'd like you to concentrate on the suspect's **BACK** and describe to me, as vividly as you can, anything that would help to identify the suspect.

**(Subject describes backview)**

Once again, concentrate carefully and see if you can remember any other details about the person's **FACE** which might help to identify them. Tell me anything that you remember.

#### **PAUSE**

Very good. Now, just relax and rest there for a few seconds .... enjoy the relaxing .... warm .... pleasant .... and comfortable sensation of being in hypnosis. Just relax and take a good deep breath. Just go nicely relaxed.

#### **POST - HYPNOTIC SUGGESTION**

You will be able to think of the slides you saw last week, and, once out of hypnosis you may find that you are able to remember even more details of the incident you witnessed.

**DEHYPNOTIZATION**

Just relax and enjoy the hypnosis as soon I will ask you if you would like to come out of hypnosis .... and if you would .... you will tell me and I will count slowly from one to ten and you will gradually come out of hypnosis. Are you ready to come out of hypnosis now? .... Fine, I am going to count from 1 to 10 .... 1 .... 2 .... 3 .... waking up slowly .... 4 .... 5 .... 6 .... more awake ....7 ....8 .... 9 .... even more awake .... 10 .... wide awake now, wide awake. How do you feel? ....

**APPENDIX I**

SUBJECT NO. \_\_\_\_\_

REISER TECHNIQUE \_\_\_\_\_

STANDARD TECHNIQUE \_\_\_\_\_

HYPNOTIST'S BLIND RATING H \_\_\_\_ M \_\_\_\_ L \_\_\_\_

## DEPTH OF HYPNOSIS QUESTIONNAIRE

On a rating scale from 1 to 10, where 1 means no effect and 10 means deeply hypnotized, please rate how hypnotized you felt during each of the following times.

1 2 3 4 5 6 7 8 9 10

No effect

Deeply hypnotized

## REISER TECHNIQUE

1. EYE ROLL	1	2	3	4	5	6	7	8	9	10
2. AWARENESS OF RIGHT HAND	1	2	3	4	5	6	7	8	9	10
3. ARM LEVITATION (BALLOON)	1	2	3	4	5	6	7	8	9	10
4. ARM RIGIDITY	1	2	3	4	5	6	7	8	9	10
5. MEMORY ROOM	1	2	3	4	5	6	7	8	9	10
6. WATCHING THE VIDEO-TAPE	1	2	3	4	5	6	7	8	9	10
7. ZOOM-IN (INCIDENT, FACE, PERSON)	1	2	3	4	5	6	7	8	9	10
8. SLOW MOTION	1	2	3	4	5	6	7	8	9	10
9. OVERALL	1	2	3	4	5	6	7	8	9	10

## STANDARD TECHNIQUE

1. FOCUS & EYE CLOSURE	1	2	3	4	5	6	7	8	9	10
2. AWARENESS OF RIGHT HAND	1	2	3	4	5	6	7	8	9	10
3. ARM LEVITATION (BALLOON)	1	2	3	4	5	6	7	8	9	10
4. ARM RIGIDITY	1	2	3	4	5	6	7	8	9	10
5. RECALL OF SLIDES	1	2	3	4	5	6	7	8	9	10
6. RECALL OF (FACE, PERSON)	1	2	3	4	5	6	7	8	9	10
7. RECALL OF DIFFERENT VIEWS	1	2	3	4	5	6	7	8	9	10
8. OVERALL	1	2	3	4	5	6	7	8	9	10

**APPENDIX J**

## EXPERIENTIAL ANALYSIS TECHNIQUE (EAT)

1. **How did you find the session?**
2. **How did you find the relaxation?**
3. **How did you experience the ....?**  
(Experimenter goes through each of the induction items and, specifically, those the subject wishes to discuss.)
4. **Reiser Induction Technique**

**What sort of experiences were you having when she suggested going down the stairs into the video room? What were your thoughts and images?**

**Were the details of his face a little more clear when you zoomed in?**

**Were you able to see anything more clearly on the back?**

**When she asked you to replay in slow motion, how did you find that?**

OR

5. **Standard Induction Technique**  
**Did you visualize anything?**  
**What was recalling the slides like? Did you recall anything you had not before?**  
**Was it like a series of slides or movement ? that is, like a movie picture?**
6. **What do you think hypnosis did in relation to your memory? Do you think it helped you to remember more details? as compared to when you were not hypnotized?**

7. **What effect do you think hypnosis had on your confidence? Were you very confident of your judgements?**
8. **How did you find this compared to your hypnosis experience in Research Methods?**
9. **Were there any negative aspects of the experiment?**
10. **Now you've done the hypnosis, do you think, if you were to run into the suspect today that you would be better able to recognize them?**

**APPENDIX K**



**INDUCTION PROCEDURE**  
**MODIFIED SHSS:C**

**RELAXATION**

First of all, just get yourself comfortable in the chair ... just move around until you find a comfortable position ... notice that the back of the chair is adjustable ... just get comfortable and relaxed ...

**OPTIONAL:** and unclasp your hands and let them just rest loosely on your lap, or on the arm of the chair.

**OPTIONAL:** and uncross your legs and let them find a comfortable position on the footrest of the chair. ... and if at any time during the session you find that this position is uncomfortable you can simply adjust it to a more comfortable one without in any way disturbing the hypnosis. I'd like you to look at the door and focus on the orange dot on it ... and just focus your vision on it. I shall refer to the dot as the target. In the meantime, I'm going to give you some simple instructions that will help you experience hypnosis. You'll find the instructions easy to follow and that you'll be able to experience the things I describe to you.

Indeed you will probably find that you'll be able to experience these things with greater vividness ... with greater intensity ...

As you stare at the target you may find that occasionally your gaze may wander or that your vision may even blur ... If that happens, simply refocus your eyes and continue staring evenly at the target ....

Now take a deep breath in and hold it ... and then ... just let it out very slowly . . You find that you start to experience a comfortable feeling ... a feeling of well being begins to develop as you continue to rest in the chair ... looking at the target ... listening to my voice ... Now take another deep breath in and hold it ... notice the feeling of tightness and tension in your abdomen ... and then ... as it starts to feel uncomfortable ... just as you did before ... let it out very slowly ... notice that breathing out ... with letting the tension out of your lungs ... makes you become even more aware of a feeling of comfort and well being settling over you ... As you focus your attention closely on feelings of warmth and relaxation in various parts of your body ... in your head and in your neck ... in your arms and in your legs ... in your chest and in your back ... and just breathe freely and evenly and deeply ... freely ... evenly ... and deeply ... just at a comfortable rate for you to notice that the relaxation increases gradually ... as you breathe out ....

You may even be aware of the walls of your chest growing looser ... continue relaxing your chest so that feelings of warmth and comfort irradiate to your back ... your shoulders ... and your neck ... and your arms ... and your legs ....

You're probably starting to notice some changes in the target ... changes that occur from staring at it for so long ... sometimes the target may look as though it's moving up and down or from left to right ... at times it may appear very distinct and clear ... at other times it may appear fuzzy and blurred ... and it may change colour ... you may see one of these things or even all of these things ... whatever you see just continue staring at the target ... continue listening to my voice ... continue to become more deeply relaxed ... more deeply relaxed ... And as you watch the target your eyelids become heavier ... your eyes become tired from staring ... your eyelids start to feel very tired and heavy ... as you sit there breathing freely and evenly ... and deeply ... breathing in ... breathing out ... freely and evenly and deeply ... Your eyelids are becoming so heavy ... so tired ... that soon they will just close of their own accord ... as if they were coated with a lead paste ... as if there were magnetic fields in the eyelashes ... drawing your eyelashes together ....

Concentrate now ... even more carefully ... on feelings of relaxation and comfort in various parts of your body ... First of all think of relaxation in the muscles of your legs ... the right leg ... the right foot ... try to feel it in the toes of the right foot ... and then in the right calf ... and then the right thigh ... then the left leg ... the left foot ... the toes of the left foot ... the left calf ... the left thigh ... then in the muscles of your left arm ... the left hand ... the fingers of the left hand ... the left forearm ... the left upperarm ... the left shoulder ... And then relax the muscles of the right arm ... the right hand ... the fingers of the right hand ... the right forearm ... the right upperarm ... the right shoulder ....

Think of relaxation in each of these areas ... and as you think of relaxation the muscles become progressively more relaxed ... and then relax the muscles of your neck ... your chest and ... your back ... relax each of these muscle groups ... the neck ... the chest ... and ... the back ... And as you relax these muscles ... your facial muscles will also relax and loosen of their own accord ... Then relax the stomach muscles by doing this ... Tighten your stomach muscles ... make your abdomen hard ... and then, when you're ready ... let the tension out ... Notice the feeling of well-being that comes with relaxing your stomach muscles ... like a gentle massaging action all over your stomach and even perhaps ... up to your chest ....

Just thinking about relaxation in each of these areas causes the muscles to become more relaxed ... and you may even find an interesting thing happens ... that the feelings of relaxation you feel in each of these areas of the body start to spread and irradiate ... so that they may seem to join up ... like the parts of a jigsaw puzzle ... and you feel a deep feeling of overall relaxation ... of contentment ... and of well-being ... permeating the whole of your body ....

And your eyes will probably have closed now from concentrating carefully on the target ... but if they haven't ... just close them gently now of your own accord ....

With your eyes closed ... you're ready to experience hypnosis ... to experience it more profoundly

... but you'll find that no matter how deeply relaxed you ever feel ... no matter how deeply in hypnosis you ever feel ... your mind is always clear ... you're always aware of my voice and what I'm saying to you ... you're aware of what is happening to you ... even though you are deeply relaxed ... deeply in hypnosis ....

You will remain deeply in hypnosis until I ask you if you would like to come out of hypnosis ... You will experience many things ... you will experience many things just for as long as I ask you to experience them .... And you will be able to speak to me when I speak to you ... to open your eyes ... and to move around while remaining deeply hypnotized ... whatever you experience or do ... you will remain deeply hypnotized ... deeply in hypnosis....

**IF NECESSARY:** You can now go even deeper in hypnosis ... Say to yourself, just by thinking it, "Now I'm going deeper and deeper". Think it to yourself ... and imagine yourself standing at the top of an escalator. Visualize the scene of the escalator ... of the steps moving down ... and picture the moving hand rail ... Count backwards slowly from 10 to 1, imagine as you count, that you are stepping onto the first step of the escalator and standing with your hand on the railing while the steps move down ... carrying you deeper and deeper ... into hypnosis. You can plan it so that you reach one just as you reach the bottom and step off the escalator. And to indicate to me that you have reached one, the index finger of your right hand will lift up slowly ... and I will know that you have reached one ... more and more deeply relaxed as you start counting backwards ....

## P A U S E

You can just relax your finger now ... deeply relaxed ... deeply hypnotized.

### 1. HAND LOWERING (RIGHT HAND)

Now hold your right arm out at shoulder height, with the palm of your hand up. There, that's right .... Attend carefully to this hand, how it feels, what is going on in it. Notice whether or not it is a little numb, or tingling, the slight effort it takes to keep from bending your wrist .... Pay close attention to your hand now. Imagine that you are holding something heavy in your hand ... maybe a heavy baseball or a billiard ball ... something heavy. Shape your fingers around as though you were holding this heavy object that you imagine is in your hand. That's it ... Now the hand and arm feel heavy, as if the weight were pressing down ... and as it feels heavier and heavier the hand and arm begin to move down ... as if forced down ... moving ... moving ... down ... down ... more and more down ... heavier ... heavier ... the arm is more and more tired and strained ... down slowly but surely ... down, down ... more and more down ... the weight is so great, the hand is so heavy ... You feel the weight more and more ... the arm is too heavy to hold back ... it goes down, down, down ... more and more down ....

(Unless all the way down, allow ten seconds; note extent of movement, then continue:)

**(IF NOT ALL THE WAY DOWN:)** That's good ... now let your hand go back to its original position on the arm of the chair, and relax. You probably experienced much more heaviness and tiredness in your arm than you would have if you had not concentrated on it and had not imagined something trying to force it down. Now just relax ... Your hand and arm are now as they were, not feeling tired or strained ... All right, just relax.

**(IF ALL THE WAY DOWN:)** That's good ... now let your hand return to its original position. Just let it rest there, and relax. Your hand and arm now as they were, not feeling tired or strained. All right ... just relax.

(Record score. Score (+) if hand has lowered at least six inches by end of ten seconds. Go to Instruction 2. MOVING HANDS APART)

## 2. MOVING HANDS APART

Now extend your arms ahead of you, with palms facing each other, hands close together but not touching. I want you to imagine a force acting on your hands to push them apart, as though one hand were repelling the other. You are thinking of your hands being forced apart and they begin to move apart ... separating ... separating ... moving apart ... wider apart ... more and more away from each other ... more and more ...

(Allow ten seconds without further suggestions and note extent of motion)

**(IF HANDS HAVE MOVED VERY LITTLE:)** That's fine. You notice how closely thought and movement are related.

**(IF HANDS HAVE MOVED APART:)** That's fine. Just put your hands back on the arms of the chair and relax.

(Record score. Score (+) if hands are six or more inches apart at end of ten seconds. Go to Instruction 3. MOSQUITO HALLUCINATION)

## 3. MOSQUITO HALLUCINATION

You have been listening to me very carefully, paying close attention. You may not have noticed a mosquito that has been buzzing, singing, as mosquitos do ... Listen to it now ... hear its high pitched buzzing as it flies around your right hand ... It is landing on your hand ... perhaps it tickles a little ... there it flies away again ... you hear its high buzz ... It's back on your hand tickling ... it might bite you ... you don't like this mosquito ... You'd like to be rid of it ... Go ahead, brush it off ... get rid of it if it bothers you ... (ALLOW 10 SECONDS) It's gone ... you are no longer bothered ... the mosquito has disappeared. Now relax, relax completely.

(Record score. Score (+) for any grimacing, any movement, any acknowledgment of effect. Go to Instruction 4. ARM RIGIDITY (RIGHT))

## 4. ARM RIGIDITY (RIGHT)

Please hold your right arm straight out, and fingers straight out, too. That's it, right arm straight

out. Think of your arm becoming stiffer and stiffer ... stiffer ... very stiff ... as you think of its becoming stiff you will feel it become stiff ... more stiff and rigid, as though your arm were in a splint so the elbow cannot bend ... stiff ... held stiff, so that it cannot bend. A tightly splinted arm cannot bend .... Your arm feels stiff as if tightly splinted .... Test how stiff and rigid it is .... Try to bend it ... try .... **(ALLOW 10 SECONDS).**

**(IF ARM BENDS:)** That's fine. You probably noticed how your arm became stiffer as you thought of it as stiff, and how much effort it took to bend it. Your arm is no longer at all stiff. Place it back in position, and relax.

**(IF ARM DOES NOT BEND:)** Relax ... don't try to bend your arm any more ... It is not stiff any longer .... Let it relax back into position. Just relax.

(Record score. Score (+) if there is less than two inches of arm bending in ten seconds. Go to Instruction 5. AGE REGRESSION)

## 5. AGE REGRESSION

**MATERIAL NEEDED:** 21.5 cm. x 28 cm. pad of paper and 1 soft lead pencil.

Now you're starting to drift away from the present ... drifting back through time ... going back now ... to your very first day at university ... and it all seems very vivid and real to you ... your first impressions of the university start to become very vivid and real to you.... It could be yesterday ... or even today ... or even now ....

You're going back even further now ... further and further back ... into the past ... you're getting younger and younger ... younger and smaller ... going right back now ... right back through high-school ... right back to the beginning of high-school .... Now even further back ... further and further into the past ... younger and younger ... smaller and smaller ... right back through primary school until you reach the age of five ... younger and smaller ... smaller and younger until ... you're five years old ... five years old ... and when you've reached the age of five years old ... just let the index finger of your right hand lift up ... so that I will know that you've reached the age of five years ... a little girl (boy) of five years of age.

### P A U S E

Good.

1. How old are you?
2. What is your name?
3. Where are you? What are you doing?
4. Are you going to school yet?

**IF NO:** You're five years old and you're not going to school yet?  
Why is that?

5. Have you learned to write your name?

**IF NO:** Can you print?

**IF NO:** Why haven't you learned to write your name? Would you like to try?

**IF YES:** Okay. I'm placing a pencil in your hand ... and a pad on your lap ... and just open your eyes slowly and gently ... just enough to see the pad ... without becoming any less hypnotized ...

6. And now write/print your name ....
7. And the date of your birthday ....
8. And what year this is ....
9. And now write: I am participating in a psychological experiment. Okay. Just close your eyes and I'll take the pad and pencil.
10. There is one more thing I would like to ask you: Who is the Prime Minister of Canada?

That's fine ... the scene is now fading ... you're growing up again ... all the way back up ... through primary school ... to the end of primary school ... going into high-school ... all the way through high-school ... through to your last year of high-school ... right on now to university ... right up to this year at university ... completely grown up now to this year 198\_\_ at university. How old are you .... Yes, you are \_\_ years old, here at the university ... pleasantly relaxed and calm and comfortable ... enjoying the sensations of being in hypnosis ....

(Record score. Score (+) if a clear change in handwriting, an inability to write, or respond to the questions. Go to Instruction 6. **GLOVE ANALGESIA**)

#### 6. **GLOVE ANALGESIA**

This time I want you to imagine that someone is injecting a shot of Novocaine into your right hand ... that someone is anaesthetizing your right hand by injecting a shot of Novocaine into it ... perhaps you feel the faint prick of the needle as it pierces the skin ... And then ... very soon you'll start to feel a slight tingling in the hand ... a slight feeling of pins and needles as the Novocaine starts to take effect ... making the hand feel different ... making the skin tingle ... making the muscles ... and fibres ... and tissues feel slightly numb and dull ... as if someone had applied a tourniquet at the wrist ... so that it might feel as if ... from the wrist downwards the circulation in the hand is being slowly cut off ... And you feel this increasing sensation of dullness and numbness gradually spreading throughout the whole of the right hand ... in the fingertips ... in the joints of each finger ... and of the thumb in the knuckles ... in the palm ... throughout the whole of the right hand up to the wrists ....

As that hand becomes more and more numb ... more and more insensitive ... more and more anaesthetic ... more and more insensitive ... more and more insensitive to touch .. and to pressure ... and to warmth ... and to cold ... and to pain ... the hand is becoming devoid of all sensations ... as if it was encased in a heavy bandage ... or a gauntlet right up to the wrist ... that's how numb and insensitive it's become ... so numb ... so insensitive ... that the hand feels that it no longer belongs to you ... is no longer

a part of you .... no longer your hand .... no longer your fingers .... no longer your thumb .... no longer your knuckles .... no longer your palm .... the hand is no longer a part of you .... The hand is now so numb .... so insensitive .... so devoid of all sensations that in a little while I'm going to apply an electric shock .... one that is completely harmless .... but which ordinarily would be quite painful ....

The hand is no longer your hand .... the hand is no longer a part of you .... it is numb and insensitive to pain ....

I want you to report what you feel on a 1 to 10 scale where one is totally painless and ten is unbearably painful .... When I'll apply this harmless .... but ordinarily painful shock ....

#### A P P L Y E L E C T R I C S H O C K

On a 1 to 10 scale .... how would you rate it. (Record the rating.) Did you feel anything at all. Now to show you just how numb and insensitive your right hand is .... I'm going to apply the same shock to the left hand now ....

#### A P P L Y E L E C T R I C S H O C K

Tell me .... using the same 1 to 10 scale .... tell me how it felt.

#### P A U S E (Record the rating)

Your hand will continue to feel numb .... to feel anaesthetic and insensitive to pain .... while you listen very carefully to what I say next.

(Record score. Score (+) if a clear change between the anaesthetized hand and the normal hand. Go to Instruction 7. HIDDEN OBSERVER)

### 7. HIDDEN OBSERVER

Often it is possible for people who are hypnotized to comment in some way on their experiences .... what they are feeling at the time .... the various sensations and experiences they feel while they are hypnotized .... you are deeply hypnotized now .... deeply in hypnosis and you can no longer feel your right hand ....

In fact .... you may find that an interesting thing is going to happen .... There are many things going on in our bodies of which we are unaware or only very slightly aware. There are bodily processes like homeostasis which we are not aware of at all and functions like heartbeat .... like breathing .... like pulse rate that we have to concentrate on if we want to be aware of them .... Just as there are things like these of which we are unaware going on in our bodies .... In hypnosis there may be information processes of which the hypnotized part of you is not aware of .... processes that you can not feel .... things that the hypnotized part of you .... to which I am now talking .... may not know .... but maybe another part could feel or know these things .... and if this part exists .... it will be able to comment in some way on the experiences you are living right now ....

When in a little while .... I place my hand on your shoulder .... this other part will comment on these experiences .... will tell what it is feeling at the time .... and when I'll place my hand on your

shoulder a second time, you will be right back where you are now .... deeply hypnotized .... now take a few moments to go deeper ....

**P A U S E**

I'm placing my hand on your shoulder now .... and this other part of you will be able to talk with me ....

**P A U S E**

I'm going to apply this electrical stimulus to your right hand again .... and you will be able to comment on your experience, to tell me what it felt .... on the same scale, from 1 to 10, how did it feel. (Record the rating) That's fine .... now .... as I told you before .... I'm placing my hand on your shoulder a second time .... and things are as they were before .... right back where they were before I touched your shoulder the first time .... (Remove the analgesia using the pen and glove technique.) .. You are deeply relaxed .... comfortable enjoying all the sensations of being in hypnosis ....

(Record score. Score (+) if the HIDDEN OBSERVER talks to the hypnotist. Validate with Post-hypnotic inquiry. Go to Instruction 8. POST-HYPNOTIC SUGGESTION (STAND-UP) and Instruction 9. AMNESIA)

**8. POST-HYPNOTIC SUGGESTION (STAND-UP) AND 9. AMNESIA**

Stay completely relaxed, but listen carefully to what I tell you next. In a little while I will begin counting from one to ten. You will awaken gradually, but you will still be in your present state for most of the count. When I reach seven you will open your eyes, but you will not be fully awake. When I get to ten you will be entirely roused up, in your normal state of wakefulness. You will have been so relaxed, however, that you will have trouble recalling the things I have said to you and the things you did or experienced. It will be much easier just to forget everything until I tell you that you can remember. You will forget all that has happened until I say to you: "Now you can remember everything." You will not remember anything until then. After you wake up you will feel refreshed.

I will now count from one to ten, and at seven, not sooner, you will open your eyes but not be fully aroused until I reach ten. At ten you will be fully awake .... After a while, I will stand up. When I do, you will stand up, too, and stretch your arms as you sometimes do when you wake up. You will do this but you will forget that I told you to do so, just as you will forget the other things, until I tell you. "Now you can remember everything".

Ready, now 1 - 2 - 3 .... etc., .... 10 ....

**(IF SUBJECT HAS EYES OPEN)** How do you feel. Do you feel wide awake.

**(IF DROWSY:)** The feeling will go away soon. Now you feel wide awake.

**(IF SUBJECT KEEPS EYES CLOSED:)** Wake up. Wide awake. How do you feel.

**(IF DROWSY:)** The feeling will go away soon. Now you feel wide awake.

(Hypnotist collects his papers and rises from his chair, continuing to face toward the



subject. Allow ten seconds.)

**(IF SUBJECT REMAINS SEATED: )** Just stand up now, and restore your circulation. That's fine. Now please be seated over here. I want to ask a few questions about your experiences.

**(IF SUBJECT HAS STOOD UP AND STRETCHED: )** You probably feel better now. Please take a seat over here. I want to ask a few questions about your experiences.

**(Record score for post-hypnotic response. Score (+) for post-hypnotic response if any partial movement is made in response to the hypnotist's rising from his chair. Go to POST-HYPNOTIC INQUIRY FORM)**

**APPENDIX L**

**SCORING BOOKLET: MODIFIED SHSS: C**

SUBJECT NO. .... DATE ..... TOTAL SCORE .....

NAME ..... HYPNOTIST .....

**SUMMARY OF SCORES**

Details on the pages that follow		Score (+ or -)
0.	Eye Closure (not counted in total score)	( )
1.	Hand Lowering (Right Hand)	
2.	Moving Hands Apart	
3.	Mosquito Hallucination	
4.	Arm Rigidity (Right Arm)	
5.	Age Regression (School)	
6.	Glove Analgesia	
7.	Hidden Observer	
8.	Post-Hypnotic Suggestion (Stand up)	
9.	Post-Hypnotic Amnesia	
Total (+) score .....		

**Record of Recall in Test for Amnesia**

	Order of Mention		Order of Mention
Hand Lowering	.....	Glove Analgesia	.....
Moving Hands Apart	.....	Hidden Observer	.....
Mosquito Hallucination	.....	Post-Hypnotic Suggestion	.....
Arm Rigidity	.....	Post-Hypnotic Amnesia	.....
Age Regression	.....		

Total number of items recalled .....

ITEM	SCORE
<p>0. <b>RESPONSE TO INDUCTION</b></p> <p>a) (If Eye Closure used) Eyes: ____:____: close without forcing do do not</p> <p>b) (If other method of induction used) Method _____ Response _____</p>	Not counted
<p>1. <b>HAND LOWERING (RIGHT HAND)</b></p> <p>Remarks:</p> <p>Score (+) if hand has lowered at least six inches by end of 10 seconds.</p>	(1) _____
<p>2. <b>MOVING HANDS APART</b></p> <p>Remarks:</p> <p>Score (+) if hands are six inches or more apart at end of 10 seconds.</p>	(2) _____
<p>3. <b>MOSQUITO HALLUCINATION</b></p> <p>Remarks:</p> <p>Score (+) for any grimacing, movement, or acknowledgement of effect.</p>	(3) _____
<p>4. <b>ARM RIGIDITY (RIGHT ARM)</b></p> <p>Remarks:</p> <p>Score (+) if there is less than 2 inches of arm bending in 10 seconds.</p>	(4) _____

ITEM	SCORE
<p>5. AGE REGRESSION (FIVE YEARS OLD)</p> <p>1) How old are you? _____</p> <p>2) What is your name? _____</p> <p>3) Where are you? _____ What are you doing? _____</p> <p>4) Are you going to school yet? _____ <u>If no:</u> What? You're 5 years old and you're not going to school yet? Why is that? _____ _____</p> <p>5) Have you learned to write your name? _____ <u>If no:</u> Can you print? _____ <u>If no:</u> What? You're 5 years old and you don't know how to write your name? Why haven't you learned to write your name? _____ _____</p> <p><u>If yes:</u> OK. I'm placing a pencil in your hand ... and a pad in your lap ... and just open your eyes slowly and gently ... just enough to see the pad ... without becoming any less hypnotized ...</p> <p>6) And now, write/print your name _____ _____</p> <p>7) And the date of your birthday _____</p> <p>8) And what year this is ... _____</p> <p>9) And now write: <u>I am participating in a psychological experiment.</u> _____</p> <p>10) There is one more thing I would like to ask you: Who is the Prime Minister of Canada? _____ _____</p> <p>Score (+) if clear change in handwriting, inability to write, or respond to the questions.</p>	<p>(5) _____</p>

ITEM	SCORE
<p>6. <b>GLOVE ANALGESIA (1 - 10 rating)</b>  <b>Shock Rating: Right Hand _____</b>  <b>Left Hand _____</b></p> <p><b>Score (+) if a clear change between the anaesthetized hand and the normal hand.</b></p>	(6) _____
<p>7. <b>HIDDEN OBSERVER</b>  <b>Is there anything that you would like to say to me? _____</b>  _____</p> <p><b>Record conversation, if any.</b></p> <p><b>Shock Rating: Right Hand _____</b></p> <p><b>Score (+) if subject relates a Hidden Observer experience.</b></p>	(7) _____
<p>8. <b>POST-HYPNOTIC SUGGESTION (Stand-up)</b>  <b>Subject stands up: Yes ____ No ____</b></p> <p><b>Score (+) if subject stands up after hypnotist does.</b></p>	(8) _____
<p>9. <b>POST-HYPNOTIC AMNESIA</b></p> <p>1) <b>Please tell me now in your own words everything that has happened from the time that (refer to induction used). (List items in order of mention. If blocked, ask, "Anything else?" until subject reaches a further impasse.)</b></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>2) <b>Anything else? _____</b></p> <p>_____</p>	

ITEM	SCORE
<p>9. POST-HYPNOTIC AMNESIA cont'd...</p> <p>3) Perhaps you can take a few moments to see if you can recall anything else. _____</p> <p>_____</p> <p>4) Listen carefully to my words. <u>Now you can remember everything.</u> Anything else now? (List in order of mention.)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Score (+) if subject recalls 3 or fewer items in first recall.</p>	<p>(9)</p>

**POST-EXPERIMENTAL INQUIRY**

1. Analgesia/Shock: How is your hand feeling now? \_\_\_\_\_

\_\_\_\_\_

I am going to shock it again. How would you rate the pain (1 - 10) this time?

\_\_\_\_\_

**\*\* REMOVE ANALGESIA \*\*** Your hand is no longer feeling numb and dull... Your hand is no longer feeling insensitive ... Your hand has returned to normal, once again able to feel part of you, able to feel comfortable and normal and to once again feel exactly as it did prior to the hypnosis you have just experienced. There, how does it feel now?

2. Hidden Observer: Did you feel that there was another part of you? \_\_\_\_\_

\_\_\_\_\_

3. Age Regression: Did you really feel that you were 5 years old?

\_\_\_\_\_

Subjective rating by subject: Read the following statements to the subject and ask him/her to select the statement that best describes his/her experience.

- \_\_\_\_\_ 1) I did not go back at all.
- \_\_\_\_\_ 2) I was thinking about when I was that age, but had no visual experiences.
- \_\_\_\_\_ 3) Although I did not go back, I could see myself as a young child reliving a past experience.
- \_\_\_\_\_ 4) I knew I was really my present age but I felt in part as though I was reliving an experience.
- \_\_\_\_\_ 5) I actually felt as though I was back at the suggested age, reliving a past experience.

Score (+) if hypnotist's rating is good, or if the subjective rating is 4 or 5.



**APPENDIX M**

**TELLEGEN ABSORPTION SCALE (TAS)**

In this booklet you will find a series of statements a person might use to describe his or her characteristics. Each statement is followed by two choices --True and False. Read the statement and decide which choice better describes you. Then circle your answer on the answer sheet.

Please answer every statement, even if you are not completely sure of the answer. Read each statement carefully, but don't spend too much time deciding on the answer.

In marking your answers on the answer sheet, please be sure that the number of the statement in the booklet is the same as the number on the answer sheet.

1. Sometimes I feel and experience things as I did when I was a child.
2. I can be greatly moved by eloquent or poetic language.
3. While watching a movie, a television show, or a play, I may become so involved that I forget about myself and my surroundings and experience the story as if it were real and as if I were taking part in it.
4. If I stare at a picture and then look away from it, I can sometimes "see" an image of the picture, almost as if I were still looking at it.
5. Sometimes I feel as if my mind could envelop the whole world.
6. I like to watch cloud shapes change in the sky.
7. If I wish, I can imagine (or daydream) some things so vividly that they hold my attention as a good movie or story does.
8. I think I really know what some people mean when they talk about mystical experiences.
9. I sometimes "step outside" my usual self and experience an entirely different state of being.
10. Textures -- such as wool, sand, wood -- sometimes remind me of colors or music.
11. Sometimes I experience things as if they were doubly real.
12. When I listen to music, I can get so caught up in it that I don't notice anything else.
13. If I wish, I can imagine that my body is so heavy that I could not move it if I wanted to.
14. I can often somehow sense the presence of another person before I actually see or hear him or her.
15. The crackle and flames of a wood fire stimulate my imagination.
16. It is sometimes possible for me to be completely immersed in nature or in art and to feel as if my whole state of consciousness has somehow been temporarily altered.
17. Different colors have distinctive and special meanings for me.
18. I am able to wander off into my own thoughts while doing a routine task and actually forget that I am doing the task, and then find a few minutes later that I have completed it.
19. I can sometimes recollect certain past experiences in my life with such clarity and vividness that it is like living them again or almost so.
20. Things that might seem meaningless to others often make a sense to me.
21. While acting in a play, I think I could really feel the emotions of the character and "become" him or her for the time being, forgetting both myself and the audience.

22. My thoughts often don't occur as words but as visual images.
23. I often take delight in small things (like the five-pointed star shape that appears when you cut an apple across the core or the colors in soap bubbles).
24. When listening to organ music or other powerful music, I sometimes feel as if I am being lifted into the air.
25. Sometimes I can change noise into music by the way I listen to it.
26. Some of my most vivid memories are called up by scents and smells.
27. Certain pieces of music remind me of pictures or moving patterns of color.
28. I often know what someone is going to say before he or she says it.
29. I often have "physical memories"; for example, after I've been swimming I may still feel as if I'm in the water.
30. The sound of a voice can be so fascinating to me that I can just go on listening to it.
31. At times I somehow feel the presence of someone who is not physically there.
32. Sometimes thoughts and images come to me without the slightest effort on my part.
33. I find that different odors have different colors.
34. I can be deeply moved by a sunset.

## TELLEGEN ABSORPTION SCALE

**DIRECTIONS:** Please fill in your name and the date.

Then answer by circling the appropriate T (True) or F (False)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

- |     |   |   |     |   |   |
|-----|---|---|-----|---|---|
| 1.  | T | F | 18. | T | F |
| 2.  | T | F | 19. | T | F |
| 3.  | T | F | 20. | T | F |
| 4.  | T | F | 21. | T | F |
| 5.  | T | F | 22. | T | F |
| 6.  | T | F | 23. | T | F |
| 7.  | T | F | 24. | T | F |
| 8.  | T | F | 25. | T | F |
| 9.  | T | F | 26. | T | F |
| 10. | T | F | 27. | T | F |
| 11. | T | F | 28. | T | F |
| 12. | T | F | 29. | T | F |
| 13. | T | F | 30. | T | F |
| 14. | T | F | 31. | T | F |
| 15. | T | F | 32. | T | F |
| 16. | T | F | 33. | T | F |
| 17. | T | F | 34. | T | F |

**APPENDIX N**

**PERSONAL EXPERIENCES QUESTIONNAIRE**

Form CA-79

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Description and Instructions**

A great many phenomena are considered common and everyday in one culture and bizarre or even pathological in another. Hallucinations, for example, are eventually experienced by every male Crow Indian during his maturation process—he must see his Guardian Spirit in order to become a man. In our society, however, when an individual has such an experience, he rarely reports it since he feels it is at best peculiar. Yet the Yogi or Zen Buddhist deliberately seeks mystical or transcendental experiences which are considered in their culture among the highest expressions of the human intellect.

It is hard to get honest reports on things which are sometimes intensely personal. The present questionnaire is based on extensive interview data with normal subjects where it became obvious that such experiences are very common even though rarely spoken of. Please take this questionnaire seriously as we are concerned with getting a true approximation of the incidence of some of these experiences in a normal college population.

We are interested in experiences which have happened spontaneously in the natural course of living, and not as a result of special techniques such as hypnosis, the experimental sensory deprivation situation, or by means of drugs that cause hallucinations (such as lysergic acid, marijuana, or mescaline). Experiences which occurred only in dreams or as the result of special techniques should be labelled as such.

Read through each question, and beside each item where a yes or no response choice is provided, rate yourself as to whether you have ever had the experience described by placing a circle around the appropriate yes or no descriptor. Give additional information only if a simple yes or no cannot be given. Please answer every question.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

- 
- |     |  |     |    |
|-----|--|-----|----|
| 1.  | Have you ever had the experience of walking in your sleep?   | YES | NO |
| 2.  | Can you put yourself to sleep?   | YES | NO |
| 3.  | Have you almost fallen asleep while you were driving on a quiet, level stretch of road?  | YES | NO |
| 4.  | Have you ever been able to make a daydream seem real?  | YES | NO |
| 5.  | When there are sounds that you do not want to listen to can you block them from your mind so that they are no longer important to you?   | YES | NO |
| 6.  | Have you ever actively stared at something and had it slowly (or suddenly) become very strange before your eyes?   | YES | NO |
| 7.  | Have you ever had strange images--vivid and real as life--flow into your mind, seemingly out of nowhere?   | YES | NO |
| 8.  | Have you ever thought that you had said something when actually you had only thought about saying it?  | YES | NO |
| 9.  | Have you ever thought you heard something, like someone calling your name or the telephone ringing, and then on checking found it was just your imagination?   | YES | NO |
| 10. | Have you ever been completely immersed in nature or in art (for example in the mountains, at the ocean, viewing sculpture, etc.) and had a feeling of awe, inspiration, and grandeur sweep over you? | YES | NO |



Name: \_\_\_\_\_

Date: \_\_\_\_\_

- |     |  |     |    |
|-----|--|-----|----|
| 11. | <b>Have you ever had the experience of being caught up by music or dancing so that you became enraptured by it and had it live and express itself through you so that you as yourself seemed to cease to be during it?</b>   | YES | NO |
| 12. | <b>Have you ever had the experience of seeming to watch yourself from a distance as if in a dream?</b>   | YES | NO |
| 13. | <b>Have you ever been lulled into a groggy state or put to sleep by a lecture or concert even though you were not otherwise fatigued or tired?</b>   | YES | NO |
| 14. | <b>Have you ever found yourself staring at something and for the moment forgotten where you were?</b>  | YES | NO |
| 15. | <b>Have you ever been so lost in thought that you did not understand what people said to you even when you nodded token agreement?</b>   | YES | NO |
| 16. | <b>Have you ever become so absorbed in listening to music that you became lost in imagination?</b>   | YES | NO |
| 17. | <b>Have you ever walked up the aisle after a particularly absorbing movie and felt still so much in the movie that your walking up the aisle was unreal or like a dream?</b>   | YES | NO |
| 18. | <b>Have you ever had the experience of reading a novel (or watching a play), and while doing so actually forget yourself, your surroundings, and even the fact that you are reading (or watching) and begin to actually live the story with such great reality and vividness that it becomes temporarily almost reality for you? Or actually seemed to become reality for you?</b> | YES | NO |

**APPENDIX O**

**PICS RELEASE 2.6****INSTRUCTIONS TO SUBJECTS**

The purpose of this questionnaire is to help determine your style of thinking and imagining. People differ greatly in the kind and amount of fantasy and imagery which engage them. We also differ in the role that these forms of imagination play in our lives. Most of us take our own thinking style for granted and only occasionally are made aware of it when we encounter a friend who seems to think quite differently. By working through this questionnaire you may become more attuned to the different ways in which people think and to your own style.

The first distinction to make is whether pictures or words trigger thought. A person who thinks with pictures generates mental images in solving problems, reading, and many other situations involving thought. People who do not think in pictures often describe their thought as more like hearing than seeing. They may experience their thoughts as an internal commentary. Thinking in these people seems more tied to language than to vision and their thoughts may be experienced as a kind of internal commentary. Some people do not experience either pictures or words and describe their thought as "just knowing".

People who do not think in pictures may still have pictures accompany their verbal thinking. That is, the pictures are there in addition to thinking. For people who think in pictures however, the thoughts are the pictures.

It is important to note that differences in thinking style are unrelated to general intelligence. Successful artists tend to think in pictures, while lawyers tend to think in words. There is evidence that Einstein thought in pictures. Sherlock Holmes is an example of a word thinker. In many fields it is possible to be successful using either style of thinking and of course many people have a mixture of styles.

The difference in thinking style is also unrelated to your verbal ability. No matter what your thinking style, the output of that thinking can be expressed equally well by both types in speaking or writing. Performance does not depend on thinking style, but rather on how efficiently you use your preferred style. Poets and descriptive writers tend to think in pictures while other writers tend to think in words.

The next distinction to make concerns the clarity or vividness of mental images. In the rating scales you will be asked to use, we describe images as ranging from "vague" to "fairly clear", "quite clear" up to "so clear that it was almost real". In deciding how to rate your image, consider such things as your awareness of the relative positions of parts in your image; the detail present -- for example the detail of a person's facial expression or clothing or postures. Many people have images which are very vague in detail and are mainly composed of outlines or "cloudy" shapes that are positioned in space relative to each other. Other people are aware of much more detail and their images are more three-dimensional.

We have separate rating scales for the verbal and image parts of your thinking. But we also

consider separately the degree to which you become involved or absorbed in your thinking. Some people may at times have had the experience of being so involved in a daydream as to be unaware of someone entering the room or even calling your name. Absorption refers to the amount of "shutting out" of other thoughts or perceptions while being involved in something.

**EXPERIMENTER'S INSTRUCTIONS  
TO SUBJECT**

**Okay. You are now going to have several minutes during which I would like you to recall some experience from your own life which has had great personal significance for you. This experience may be entirely personal and private. You will not be asked about its content. I would like you to choose an experience which had a strong positive emotional impact on you. Just take a few moments now to close your eyes and think privately about this experience.**

**WAIT 2 MINUTES**

**Now, please turn to the next page of your response forms and answer the questions about your thinking style based on the recall you have just done.**

**Notice that the first question is followed by a blank line. I would like you to enter here your estimate of how much time passed from when you closed your eyes.**

**WAIT FOR COMPLETION**

**Next I would like you to think about a situation as I describe it to you:  
You are walking alone in a meadow. It is early morning, about 6 o'clock or 6:30. Think about your experience there and what might happen.**

**PAUSE**

**Close your eyes now and just let this situation develop in your mind.**

**WAIT 1 MINUTE**

**Now please turn to the next page and fill out the section on the meadow.**

**WAIT FOR COMPLETION**

I am now going to pass around some folders, each of which contains a picture. Please take one and pass the rest along. When you have a folder, check the label on the cover to make sure you have it right side up but **DO NOT OPEN THE FOLDER YET**. In a moment, I am going to ask you to open it and look at the picture for a short time. You will then have some time to relax and experience what it brings to mind.

Please open the folder and look at the picture.

**SHOW THE PICTURE FOR 15 SECONDS**

Okay, close the folder ... now close your eyes and relax.

**WAIT 1 MINUTE**

Now please fill out the section on the **Picture**.

**SCORING OF PICS**

Scoring as done on pages 2, 3, & 4 of this booklet. The first, second, and fourth questions on each page were scored as follows:

$$A = 1 \quad B = 2 \quad C = 3 \quad D = 4 \quad E = 5$$

Because of the wording of the third question, it was scored thus:

$$A = 5 \quad B = 4 \quad C = 3 \quad D = 2 \quad E = 1$$

The first question on each page rated verbal thinking (V); the second, imagery (I); the third, absorption (A); and the fourth, effort (E). To obtain the final score, verbal and effort were subtracted from imagery and absorption as shown in the following equation:

$$I + A - V + E = \text{PICS SCORE}$$

**STYLE OF THINKING QUESTIONNAIRE**

**NAME:** \_\_\_\_\_



**RECALL OF EMOTIONAL EXPERIENCE**

1. \_\_\_\_\_
2. While recollecting this experience, how did you feel?
  - A. Positive, happy
  - B. Neutral
  - C. Negative, sad
3. How intense was your original experience?

Neutral   1   2   3   4   5   6   7   Very Intense
4. How intense was your feeling while recollecting?

Neutral   1   2   3   4   5   6   7   Very Intense
5. Which part of your recollection held most of the feelings for you?
  - A. The images that came to mind while recalling.
  - B. The things I heard or said to myself while recalling.
  - C. Both equally carried the feelings.

**PLEASE GO ON THE NEXT PAGE**

6. Which description best characterizes the verbal part of your recollection?
- A. No words or language was involved.
  - B. Vaguely aware of some words or inner speech.
  - C. Fairly clear inner speech.
  - D. Quite clear inner speech.
  - E. Inner speech was so clear that it was almost like hearing it.
7. Which description best characterizes the imagery part of your recollection?
- A. No image.
  - B. Vague image.
  - C. Fairly clear.
  - D. Quite clear.
  - E. So clear that it was almost real.
8. Which description best matches your degree of absorption in your recollection?
- A. High absorption. Always involved with no extraneous thoughts.
  - B. Mostly involved with my recollection; few other thoughts.
  - C. Fairly involved; but also found my mind wandering.
  - D. Only occasionally absorbed in my recollection.
  - E. Many distractions. I lost contact with my recollection much of the time.
9. Which description best matches your thinking?
- A. It just popped into mind. No effort was needed to choose it.
  - B. I had to think a little at first before knowing what to recall.
  - C. It took quite a bit of searching around before I decided on what to recall.
  - D. It took quite a bit of searching around and I was still somewhat unsure.
  - E. I considered many possibilities and had difficulty deciding on one.

**WAIT HERE FOR FURTHER INSTRUCTIONS**

**MEADOW**

1. Which description best characterizes the verbal part of your inner experience?
  - A. No words or language was involved.
  - B. Vaguely aware of some words or inner speech.
  - C. Fairly clear inner speech.
  - D. Quite clear inner speech.
  - E. Inner speech was so clear that it was almost like hearing it.
  
2. Which description best characterizes the imagery part of your inner experience?
  - A. No image.
  - B. Vague image.
  - C. Fairly clear.
  - D. Quite clear.
  - E. So clear that it was almost real.
  
3. Which best describes your level of absorption?
  - A. High absorption. Always attentive with no extraneous thoughts.
  - B. Mostly involved with the experience; few other thoughts.
  - C. Fairly involved; but also found my mind wandering.
  - D. Only occasionally absorbed in my experience.
  - E. Many distractions. I lost contact with my experience of the meadow much of the time.
  
4. Which best describes the flow of your thoughts after you closed your eyes?
  - A. My thoughts flowed easily without any conscious decision about where to make them go.
  - B. I had to make a few initial decisions and then my thoughts flowed from there.
  - C. I had to make several decisions at various points about how to proceed.
  - D. I made decisions for each step of my thoughts, sort of carefully planning the situation and considering alternatives.

**WAIT HERE FOR FURTHER INSTRUCTIONS**

**PICTURE**

These questions apply to your thinking after the picture was removed.

1. Which description best characterizes the verbal part of your inner experience?
  - A. No words or language was involved.
  - B. Vaguely aware of some words or inner speech.
  - C. Fairly clear inner speech.
  - D. Quite clear inner speech.
  - E. Inner speech was so clear that it was almost like hearing it.
  
2. Which description best characterizes the imagery part of your inner experience?
  - A. No image.
  - B. Vague image.
  - C. Fairly clear.
  - D. Quite clear.
  - E. So clear that it was almost real.
  
3. Which description best characterizes your level of absorption?
  - A. High absorption. Always attentive with no extraneous thoughts.
  - B. Mostly involved with my experience; few other thoughts.
  - C. Fairly involved; but also found my mind wandering.
  - D. Only occasionally absorbed in my experience.
  - E. Many distractions. I lost contact with my experience of the picture most of the time.
  
4. Which best describes the flow of your thoughts after you closed your eyes?
  - A. My thoughts flowed easily without any conscious decision about where to make them go.
  - B. I had to make a few initial decisions and then my thoughts flowed from here.
  - C. I had to make several decisions at various points about how to proceed.
  - D. I made decisions for each step of my thoughts, sort of carefully planning the experience and considering alternatives.

**APPENDIX P**

**RATER'S CORRECT DESCRIPTION of SUSPECT FORM**

**Suspect - Appearance**

**Rater:** \_\_\_\_\_

1. Sex \_\_\_\_\_

2. Age \_\_\_\_\_

3. Height \_\_\_\_\_

4. Weight \_\_\_\_\_

5. Body Build \_\_\_\_\_

6. Skin Colour \_\_\_\_\_

7. Hair Colour \_\_\_\_\_

8. Clothing (colour, style, features)

a) jacket/coat \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Rater: \_\_\_\_\_

**b) slacks/jeans** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**c) shoes/boots** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**d) shirt/sweater** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**e) purse/bag** \_\_\_\_\_

**f) hat** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**g) gloves/mitts** \_\_\_\_\_

**h) jewellery** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**i) special features**  
- glasses \_\_\_\_\_  
- parcel/weapons \_\_\_\_\_

Rater: \_\_\_\_\_

9. Facial Features

a) shape of face \_\_\_\_\_

---

---

---

b) forehead \_\_\_\_\_

---

---

---

c) eyes \_\_\_\_\_

---

---

d) eyebrows \_\_\_\_\_

---

---

e) nose \_\_\_\_\_

---

---

f) mouth \_\_\_\_\_

---

---

g) ears \_\_\_\_\_

---

---



Rater: \_\_\_\_\_

**h) chin** \_\_\_\_\_

\_\_\_\_\_

**i) hairline/style** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**j) special markings** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**k) facial hair** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Rater: \_\_\_\_\_

**ADDITIONAL INFORMATION ABOUT SUSPECT**

a) front view \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

b) side view \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

c) back view \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**What sort of a person does he look like?**

\_\_\_\_\_

**Where do you think the suspect might be found?**

\_\_\_\_\_  
\_\_\_\_\_

**OTHER**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**APPENDIX Q**

**CORRECT DESCRIPTION OF SUSPECT**

1. **Sex - Male.**
2. **Age - 30-40 years.**
3. **Height - 5'8" - 5'10"**
  - average
  - taller than the Victim
4. **Weight - 150 - 165 lbs.: 68 - 74.8 kgs.**
5. **Body Build**
  - slim - lean
  - medium - average
  - not overweight
  - sloping shoulders
6. **Skin Colour**
  - Caucasian - white
  - tanned
7. **Hair Colour**
  - dark
  - dark brown
  - black
  - some grey in it
8. **Clothing -**
  - a) **Jacket**
    - i **style:**
      - windbreaker
      - nylon
      - elastic at wrists
      - elastic at waist
      - drawstring - tied in front
      - collar - open, flat, double stitching, pointed
      - pockets - two on lower front, double stitching around them
      - snaps up centre front
    - ii **size:**
      - large fitting on shoulders
      - hip length
      - bulges at front
    - iii **colour:**
      - blue
      - medium blue - sky blue
      - darker than the pants
      - front snaps same colour as jacket with silver backs
    - iv **back:**
      - writing on back
      - white letters
      - block print
      - 6" high
      - across shoulders
      - YUKON

- v other:
  - clean
  - open to mid-chest
- b) **Jeans**
  - i style:
    - cowboy style - Levi's
    - tight on upper leg
    - slightly flared at bottom - bell bottom
    - double stitching on inner and outer seams and hem
    - 2 square back pockets
    - NOT bootleg; NOT straight leg; NOT designer jeans
  - ii colour:
    - light blue
    - faded
    - worn
  - iii other:
    - too short
    - clean
    - no holes
    - crease
- c) **Boots**
  - cowboy style - "Western"
  - 1" heel
  - pointed toes
  - dark brown or black
  - clean
- d) **Shirt**
  - collarless
  - t-shirt (Fox, Izod type)
  - placket on front in light blue
  - light blue spots or design on white
  - large white button
  - short-sleeved
- e) **Purse/bag**
  - NONE
- f) **Hat**
  - cowboy
  - light brown
  - brim up at sides
  - dimples or dents on top and each side
  - decoration on left side
  - NO band
  - smaller than a 10 gallon hat
  - felt
  - clean
- g) **Gloves/mitts**
  - NONE
- h) **Jewellery**
  - ring
  - gold
  - curved
  - wedding band
  - on left ring finger
  - NO other jewellery

- i) **Special Features**
- glasses - NONE
  - parcel/weapons - NONE
9. **Facial Features -**
- a) **Shape of Face**
- oval
  - long
  - high cheekbones
- b) **Forehead**
- hat covers it
  - flat
- c) **Eyes**
- close set
  - dark (dark brown)
  - squinting
  - small
- d) **Eyebrows**
- neat
  - dark
  - small
  - NOT bushy
- e) **Nose**
- narrow at top
  - wide at bottom
  - round at bottom
  - straight edge
  - NO bumps or broken bones
  - long
  - neither too large or too small
- f) **Mouth**
- average
  - cannot see top lip due to mustache
  - fullish bottom lip
  - teeth
- g) **Ears**
- attached ear lobes
  - only see bottom half due to hair
- h) **Chin**
- pointed
  - cleft
  - NO dimple
  - rounded slightly
  - weak or small jaw line
- i) **Hair Style**
- neat
  - straight edges
  - above collar
  - thick
  - covers half the ears
  - straight
- j) **Special Markings**
- acne - NONE
  - scars - NONE
  - moles - NONE
  - birthmarks - NONE
  - hairy forearms

- k) Facial Hair**
- i **mustache:**
    - dark brown
    - grey on ends
    - covers upper lip
    - curls up at ends
    - thick
    - straight
    - bushy
    - moderate handle bar style
  - ii **sideburns**
    - dark brown
    - grey at ends
    - wide but regular shape
    - goes to the end of the ear lobes
  - iii **5 o'clock shadow**
    - grey sprinkled in
- 10. ADDITIONAL INFORMATION**
- a) **front view**
    - wide smile
    - friendly look
    - clean hands
  - b) **side view -**
  - c) **back view -**
- 11. What sort of person does he look like?** unemployed, ranch hand
- 12. OTHER - Posture:**
- head pokes forward
  - crosses arms
  - slouches when walking or standing

**APPENDIX R**



Source table for 2 x 3 x 4 ANOVA of total correct details of the suspect

Source of Variation	SS	df	MS	F
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	105.84	1	105.84	.85
Susceptibility	317.16	2	105.84	1.28
Experimental Condition x Susceptibility	10.11	2	5.05	.04
Error	5456.33	44	124.01	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	411.58	2	137.19	15.68*
Recalls x Experimental Condition	33.23	2	11.08	1.27
Recalls x Susceptibility	66.76	5	11.13	1.27
Recalls x Experimental Condition x Susceptibility	56.21	5	9.37	1.07
Error	1154.92	111	8.75	

\* $p < .0001$

**APPENDIX S**

Source table for 2 x 3 x 3 ANOVA of new correct details of the suspect

Source of Variation	SS	df	MS	F
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	16.05	1	16.05	2.07
Susceptibility	12.20	2	6.10	.79
Experimental Condition x Susceptibility	4.13	2	2.06	.27
Error	341.66	44	7.76	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	641.90	2	320.95	57.16**
Recalls x Experimental Condition	51.97	2	25.99	4.63*
Recalls x Susceptibility	10.98	3	2.74	.49
Recalls x Experimental Condition x Susceptibility	3.44	3	.86	.15
Error	494.08	73	5.61	

\* $p < .05$  \*\* $p < .0001$

**APPENDIX T**

**Source table for 2 x 3 x 4 ANOVA of total highly confident correct details of the suspect**

<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F</b>
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	.28	1	.28	.00
Susceptibility	323.43	2	161.72	1.18
Experimental Condition x Susceptibility	65.90	2	32.95	.24
Error	6044.24	44	137.37	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	1152.22	2	384.07	25.04*
Recalls x Experimental Condition	100.81	2	33.60	2.19
Recalls x Susceptibility	43.73	4	7.29	.48
Recalls x Experimental Condition x Susceptibility	11.98	4	2.00	.13
Error	2024.67	97	15.34	

**\*p < .0001**

**APPENDIX U**

**Source table for 2 x 3 x 3 ANOVA of new highly confident correct details of the suspect**

<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F</b>
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	1.20	1	1.20	.15
Susceptibility	26.90	2	13.45	1.73
Experimental Condition x Susceptibility	.40	2	.20	.03
Error	341.66	44	7.77	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	388.95	1	194.48	41.60**
Recalls x Experimental Condition	40.56	1	20.28	4.34*
Recalls x Susceptibility	11.25	3	2.81	.60
Recalls x Experimental Condition x Susceptibility	3.76	3	.94	.20
Error	411.36	65	4.67	

\* $p < .05$  \*\* $p < .0001$

*t*

**APPENDIX V**



**Source table for 2 x 3 x 4 ANOVA of total errors of details of the suspect**

<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F</b>
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	150.85	1	150.85	2.50
Susceptibility	144.97	2	72.48	1.20
Experimental Condition x Susceptibility	86.71	2	43.35	.72
Error	2651.60	44	60.26	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	1401.04	3	467.01	45.07*
Recalls x Experimental Condition	34.87	3	11.62	1.12
Recalls x Susceptibility	116.06	5	19.34	1.87
Recalls x Experimental Condition x Susceptibility	106.82	5	17.80	1.72
Error	1367.91	121	10.36	

**\*p < .0001**

**APPENDIX W**

**Source table for 2 x 3 x 3 ANOVA of new errors of details of the suspect**

<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F</b>
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	9.85	1	9.85	.86
Susceptibility	48.68	2	24.34	2.11
Experimental Condition x Susceptibility	56.55	2	28.27	2.46
Error	506.48	44	11.51	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	1021.22	1	510.61	47.22*
Recalls x Experimental Condition	67.40	1	33.70	3.12
Recalls x Susceptibility	83.59	3	20.90	1.93
Recalls x Experimental Condition x Susceptibility	37.40	3	9.35	.86
Error	951.50	61	10.81	

\* $p < .0001$

**APPENDIX X**

**Source table for 2 x 3 x 4 ANOVA of total highly confident errors of details of the suspect**

<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F</b>
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	111.53	1	111.53	1.57
Susceptibility	107.55	2	53.77	.76
Experimental Condition x Susceptibility	40.40	2	20.20	.28
Error	3128.84	44	71.11	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	1445.94	2	481.98	50.84*
Recalls x Experimental Condition	19.82	2	6.61	.70
Recalls x Susceptibility	116.68	4	19.45	2.05
Recalls x Experimental Condition x Susceptibility	79.91	4	13.32	1.40
Error	1251.31	97	9.48	

\* $p < .0001$

**APPENDIX Y**

**Source table for 2 x 3 x 3 ANOVA of new highly confident errors of details of the suspect**

<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F</b>
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	.94	1	.94	.09
Susceptibility	50.38	2	25.19	2.47
Experimental Condition x Susceptibility	27.08	2	13.54	1.33
Error	448.08	44	10.18	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	408.80	1	204.40	29.16*
Recalls x Experimental Condition	3.89	1	1.94	.28
Recalls x Susceptibility	41.29	3	10.32	.47
Recalls x Experimental Condition x Susceptibility	14.59	3	3.65	.52
Error	616.78	65	7.01	

\* $p < .0001$

**APPENDIX Z**



Source table for 2 x 3 x 4 ANOVA of total "don't know" responses

Source of Variation	SS	df	MS	F
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	.51	1	.51	.03
Susceptibility	28.05	2	14.02	.79
Experimental Condition x Susceptibility	4.09	2	2.05	.12
Error	779.99	44	17.73	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	165.48	2	55.16	26.16*
Recalls x Experimental Condition	10.00	2	3.33	1.58
Recalls x Susceptibility	3.29	5	.55	.26
Recalls x Experimental Condition x Susceptibility	12.17	5	2.03	.96
Error	278.34	110	2.11	

\* $p < .0001$

**APPENDIX A<sub>1</sub>**

**Source table for 2 x 3 x 3 ANOVA of new "don't know" responses**

<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>MS</b>	<b>F</b>
<b><u>Between Blocks/Subjects</u></b>				
Experimental Condition	.23	1	.23	.25
Susceptibility	2.58	2	1.29	1.42
Experimental Condition x Susceptibility	1.41	2	.71	.78
Error	39.21	43	.91	
<b><u>Within Blocks/Subjects</u></b>				
Recalls	32.99	2	16.49	30.54*
Recalls x Experimental Condition	1.91	2	.96	1.77
Recalls x Susceptibility	.58	3	.15	.27
Recalls x Experimental Condition x Susceptibility	1.27	3	.32	.59
Error	46.44	70	.54	

\* $p < .0001$

**APPENDIX B<sub>1</sub>**

Pearson correlation matrix for predictor variables for all subjects (N=50)

	Visual Acuity	RBVRT # Correct	RBVRT # Errors	TAS	PEQ	PICS	SHSS:C (Mod.)	Hypnotic Procedure
	r	r	r	r	r	r	r	r
Visual Acuity	---	.13	-.10	.15	.34	.07	.42*	-.03
RBVRT # Correct		---	-.95**	-.12	.08	-.13	-.04	-.35
RBVRT # Errors			---	.08	-.10	.10	.04	.29
TAS				---	.80**	.24	.44*	.46**
PEQ					---	.19	.44*	.33
PICS						---	.15	.09
SHSS:C (Mod.)							---	.08
Hypnotic Procedure								---

\*p < .01, \*\*p < .001.