

The Forensic Witness Role and the Effects of Misinformation and Suggestion.

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Abstract

The aim of the research presented here was to determine whether individuals in an experimental group who were called upon to fulfill the role of forensic witnesses were more likely to engage in crime recording behaviour than individuals in a control group who were not assigned to this role. A between-groups design was used to carry out the procedure. The independent variable was the application of suggestion and misinformation in the experimental group. The procedure used a combination of verbal and visual stimuli including Power Point Slides and a 15 second film clip. The participants were 46 part-time psychology students. There were 23 participants in each group. Statistical analysis showed that no significant difference in crime recording behaviour was observed between the experimental and control groups. Although there was no significant result, it was concluded that there was no compelling reason to abandon the main hypothesis. Further research directions were indicated.

Introduction

General Introduction

The object of this research was to determine whether or not a specific and measurable mode of behaviour could be observed in individuals who were called upon to fulfill the role of the forensic witness. Psychological theories from the early 20th century proposed that the circumstances of the forensic witness were responsible for an especially pronounced level of vulnerability to suggestion and manipulation. Contemporary experiments on the effects of suggestion and misinformation upon eyewitness testimony have provided significant scientific support for these theories.

The purpose of the experiment presented here was to test the hypothesis that individuals in the forensic role were more likely to engage in crime reporting behaviour in response to suggestion and misinformation when compared with individuals who had not had these conditions imposed upon them. The intention in conducting this research was to learn about forensic witness behaviour, and to identify ways in which forensic witnesses may be especially vulnerable to the influence of suggestion and misinformation.

Early Theories, Experiments and Findings

I. Freud.

In his contributions to the forensic field, Sigmund Freud generally favours study of the criminal rather than the witness. He does, however, remark on two occasions, that the vulnerability of memory to a range of disruptive influences is “insufficiently emphasized in assessing testimony in courts of law” (Freud, 1901, p147; Freud, 1906, p.103). In *The Psychopathology of Everyday Life*, he asserts a number of general phenomenological

definitions and distinctions that are relevant to the problem of human fallibility in the recall and reproduction of facts and observations (Freud, 1901). First, “the forgetting of impressions can be accompanied by faulty recollection [paramnesia or confabulation]” (Freud, 1901, p. 148). In particular, “distressing memories succumb especially easily to motivated [defensive] forgetting” (Freud, 1901, p. 147). Second, the “errors that derive from repression are to be sharply distinguished from others which are based on genuine ignorance” (Freud, 1901, p.220). The class of errors which are based on ignorance occurs, “where we wish to emphasize the characteristic of objective reality in the material we are trying to reproduce” (Freud, 1901, p. 217). These confabulations that arise from errors based on ignorance are considered by Freud to be ego-syntonic (Freud, 1901, p.221).

Third, Freud remarks that two or more individual accounts of the same experience are very often found to diverge significantly. Even in circumstances that have no special cause to occasion a disturbance of memory, there will be individual, subjective conditions which influence the retention and recall of sensory data (Freud, 1901, p.134-5). Freud’s method in shedding light on these factors is not experimental. Instead, he proceeds on a case by case basis (Freud & Breuer, 1893-95; Freud, 1901, 1906)

II. Munsterberg

Hugo Munsterberg’s 1908 text, *On the Witness Stand: Essays on Psychology and Crime* contains the following observation:

In a thousand courts at a thousand places all over the world, witnesses every day affirm by oath...mixtures of truth and untruth, combinations of memory and of illusion, of knowledge and of suggestion, of experience and wrong conclusions (Munsterberg, 1908, p.43).

Munsterberg considers the matter of witness fallibility from a number of perspectives. For the purposes of the present question his treatment of observation and impressions, errors in memory, and suggestion are of immediate interest (Munsterberg, 1908).

Munsterberg discusses the problem of the divergent accounts that arise when a number of individuals are witness to a single scene or event (Munsterberg, 1908, pp. 16-36).

In addition to supplying anecdotal accounts of the phenomenon, Munsterberg also conducts experiments [results not extant] (Munsterberg, 1908, pp.16-36). Most of his experiments involve visual perception, however, he also tests auditory perception, temporal perception and mental imagery. Munsterberg is especially interested in the degree of fallibility found in these experiments, and he finds evidence for this the in range of discrepancies that may be manifest in the testimonies of individuals who have witnessed the same event.

On account of the levels of fallibility he observes, Munsterberg builds upon his original thesis with regard to the perception of the witness:

The sources of error begin, of course, before the recollection sets in. The observation itself may be defective and illusory; wrong associations may make it imperfect; judgments may misinterpret the experience; and suggestive influences may falsify the data of the senses. Everyone knows the almost unlimited individual differences in the power of correct observation and judgment (Munsterberg, 1908, pp. 56-57).

For Munsterberg, the context of the courtroom, and the process of bearing witness under oath serve to amplify these phenomena (Munsterberg, 1908, pp.196-8).

III. Bartlett

In 1932, Frederic Bartlett published the results of a series of memory experiments. One of

his findings was of particular interest here, namely, that the act of remembering is a constructive process (Bartlett, 1932).

The first principle of Constructive Memory in Bartlett's account is the rejection of the idea that traces and/or images *qua* memories are manifest as a reified chronologically ordered phenomenon in a "storehouse of past impressions" (Bartlett, 1932, p. 200). And, he says, the notion, "that memory is primarily or literally reduplicative, or reproductive" must be abandoned (Bartlett, 1932, p. 204). Instead, according to Bartlett, "condensation, elaboration and invention are common features of ordinary remembering, and those all very often involve the mingling of materials belonging originally to different' schemata" (Bartlett, 1932, pp. 204-5).

These schemata may be individually or culturally determined. And as well as having an influence on how an event is perceived by the individual, they also influence the individual's expectations with respect to experience generally. In the light of this, when the individual remembers, they are not accessing objective data, they are actively constructing subjectively determined content. And one of the major influences on the nature of this content is the schema set available in the particular context.

These theoretical considerations point to an important conclusion. Namely, that a major factor in the disruption and distortion of memory is influence. Moreover, this factor is central in Freud's basic definition of the effects of suggestion upon the individual as, "a mental change" which is without "adequate logical foundation", and which is brought about by the influence of one person (or persons) upon another (Freud, 1889, p.101; Freud, 1921, pp. 88-92).

According to Freud, suggestibility is "an irreducible, primitive phenomenon, a fundamental fact in the mental life of man" (Freud, 1921, p. 89). For Munsterberg suggestibility is a matter of degree, and is highly variable among individuals. He also affirms

that it is a measurable phenomenon (Munsterberg, 1908, pp. 195-7). Suggestibility does not appear as an immediate concern for Bartlett, rather, the primary factor is the influence upon the individual of cultural and personal schemata (Bartlett, 1932). A number of psychological experiments conducted between the 1970s and the present day offer significant scientific support for these theories.

Contemporary Studies

I. Suggestibility and the misinformation effect

In 1974, Elizabeth Loftus and John Palmer published *Reconstruction of Automobile Destruction: An Example of the Interaction Between Language and Memory* (Loftus & Palmer, 1974, pp. 585-589). This paper and its findings represent the originary model for experimentation on Post-event Suggestibility in the contemporary cognitive field.

They report two major findings. First, it was found that witnesses to various films of car accidents showed significantly high levels of suggestibility at post-event interview dependent upon the verbs used by the interviewer: The question, “ ‘About how fast were the cars going when they smashed into each other?’ , elicited higher estimates of speed than questions which used the verbs *collided*, *bumped*, *contacted*, or *hit* in place of *smashed*” (Loftus & Palmer, 1974, p. 585)

Second, “on a retest one week later, those subjects who received the verb *smashed* were significantly more likely to say ‘yes’ to the question, ‘Did you see any broken glass?’ , even though broken glass was not present in the film” (Loftus & Palmer, 1974, p. 585). With this Loftus and Palmer show that verbal suggestion can cause a “reconstruction” of memory. In addition, it is found that subjects were significantly susceptible to confabulation dependent upon association to verbal cues; i.e. “smashed” – “broken glass” (Loftus & Palmer, 1974, p. 585).

Two further studies on Post-event memory were carried out by Loftus in 1975, and by Loftus, Miller & Burns in 1978 (Loftus, 1975, pp. 560-572; Loftus et al., 1978, pp. 19-31). The findings in each case showed that not only does “reconstruction” occur at significant levels, but also, “that information to which a witness is exposed after an event, whether that information is consistent or misleading, is integrated into the witness's memory of the event” (Loftus et al. 1978, pp. 19-31).

In a 1977 experiment, Kathy Pezdek showed that both visual and verbal information and misinformation are semantically analyzed in a similar way, and that there is significant evidence that information of both the visual and verbal types “are stored in a common memory system” (Pezdek, 1977, p.523)

II. Pre-event manipulation and post-event suggestion

In their 1995 paper, Michelle Leichtman and Stephen Ceci introduce a novel experimental condition into the Misinformation-type experiment as developed by Loftus et al. and Kathy Pezdek respectively (Loftus, 1974, Loftus et al., 1975, 1977, 1978; Pezdek; 1977; Leichtman & Ceci, 1995, pp. 568-578). Leichtman & Ceci’s experiment aims to test the effects of Pre-event Manipulation on Post-event Memory in preschool age children. The pre-event manipulation involves priming the participants to have expectations of an unknown visitor, which conform to a personality stereotype. In this, case “Sam Stone”, who, it is suggested, is “well meaning... but clumsy” (Leichtman & Ceci, 1995, p. 570).

Leichtman & Ceci isolate a control condition, with no suggestive questions, and three different experimental groups. Namely, a *stereotype* group, a *suggestion* group and a *stereotype-plus-suggestion* group. Results from open-ended interviews after 10 weeks were as follows:

The control participants provided accurate reports, stereotypes provided a modest number of false reports and suggestions resulted in a substantial number of false reports. Children in the stereotype-plus-suggestion group made high levels of false reports (Leichtman & Ceci, 1995, p. 568).

Leichtman & Ceci achieved this through stereotyping via the dissemination of fixed characteristics of Sam Stone's personal traits and over the course of one month before meeting him. When Sam Stone visits the participants none of these traits is in evidence. In fact, Sam does nothing more than wave and say 'hello'. Leichtman & Ceci's most significant finding is that 46% of the younger group and 30% of the older group in the experimental conditions spontaneously reported that Sam behaved in a manner corresponding to the primed stereotype (Leichtman & Ceci, 1995, pp. 570-572).

III. Confabulation as "self-generated" information

In their 1998 study, Ackil & Zaragoza elaborated on the Misinformation experimental models of the 1970s (Loftus, 1975; Loftus et al., 1974, 1977, 1978; Pezdek, 1977) (Ackil & Zaragoza, 1998 pp. 1358-1372). They focused particularly on the "false memory" or confabulation effect. Their major finding was the following:

Participants from 3 age groups (1st grade, 3rd/4th grade, and college age) viewed a clip from a movie and were "forced" to answer questions about events that clearly never happened in the video they had seen. Despite evidence that would not have answered these questions had they not been coerced into doing so, 1 week later participants in all age groups came to have false memories for the details they had knowingly fabricated earlier (Ackil & Zaragoza, 1998, p. 1358).

In the same vein, a 2011 experiment by Gombos, Pezdek & Haymond demonstrated that, "the

forced confabulation effect is a real memory effect above and beyond the effects of response bias; forcing eyewitnesses to guess or speculate can actually change their memory” (Gombos et al. 2011, p. 127).

Critical Evaluation

In the first instance, this literature was presented to provide a theoretical foundation for pursuing an enquiry into the nature of the forensic witness situation and the effects of misinformation and suggestion on the individual’s memory. In the second instance, it was found that contemporary experiments provided significant support for these theories.

The theories of Freud, Munsterberg and Bartlett indicated that there is a range of factors to be taken into account in respect of the disruptions, errors and distortions that take place in the recall and reproduction of events by witnesses (Freud, 1901, 1906; Munsterberg, 1908; Bartlett, 1932). These can be enumerated as follows. The phenomenon of human memory is in itself problematic because the perceptions, observations and the mental impressions that accrue from these processes are highly susceptible to distortions caused by external influence.

The problems of perception, observation and impressions are present in almost every aspect of Freud’s psychoanalytic theory. One fundamental axiom, however, can be isolated. Namely, the rejection of the empiricist notion of the engram, “defined as an impression [memory-trace] bearing a resemblance to the corresponding reality” (Laplanche & Pontalis, 1973, p. 268). The same point of view is affirmed by Munsterberg, and it is especially supported by Bartlett in his theory that memory is an active, constructive process (Munsterberg, 1908, pp. 56-7; Bartlett, 1932, pp. 200-204).

The experiments conducted by Loftus et al. in the 1970s and by Leichtman & Ceci in 1995 in particular provided significant evidence for this theoretical conception of the effects

of suggestion and misinformation upon memory, and for the proposition that the engram model of memory is untenable (Loftus 1975, Loftus et al., 1974, 1977, 1978; Leichtman & Ceci, 1995).

Another phenomenon observed in the contemporary experiments was confabulation. Freud explained confabulation as the consequence of reaching for “objective reality” where there is ignorance of the facts (Freud, 1901, pp. 220-217). Frederic Bartlett’s finding was that individuals display a tendency to remember things that never happened, and that in some cases individuals will generate false memories by themselves (Bartlett, 1932). Although Bartlett attributed these confabulation effects to individually or culturally determined schemata, one contemporary experiment in particular showed that these schemata were also susceptible to external suggestive influences. Leichtman & Ceci showed that schemata could effectively be manufactured in individuals in experimental conditions by using pre-event suggestion. This experimental manipulation showed that individuals could be primed to construct schematic knowledge of an individual they have never met or seen. With this, Leichtman & Ceci demonstrated that expectations founded on schematic knowledge could be used to influence perception, observation and impressions in advance of exposure to an experimental stimulus. It was also found at post-event interviews of the participants in this experiment that these schemata had been integrated to memory (Leichtman & Ceci, 1995).

The integration of misinformation and confabulated ideas to memory was a central finding of all the contemporary experiments discussed here. It was first observed by Loftus & Palmer in 1974 (Loftus & Palmer, 1974). Pezdek’s finding in 1977 that verbal and visual information are semantically analyzed in a similar way demonstrated that verbal cues could be used to influence the individual’s integration of visual perception to memory (Pezdek, 1977). Later experiments that were conducted by Ackil & Zaragoza in 1998 and by Gombos, Pezdek & Haymond in 2011 showed that even when individuals having knowingly

confabulated specific events, these events will later be remembered as though they had actually happened (Ackil & Zaragoza, 1998; Gombos et al., 2011)

These findings have serious implications for the assessment of eyewitness testimony. The theoretical accounts of Freud and Munsterberg stress that the nature problem has to be kept distinct from any willful mendacity or unconsciously motivated deception on the part of the witness. The experiments discussed here provide a strong scientific foundation for maintaining this distinction.

The main difference between these experiments and the one presented here is that this experiment sought explicitly to impose a forensic condition on experimental participants in advance of experiencing a stimulus. This was done to see if there was a difference in their response to the stimulus when compared with participants who did not have this condition imposed.

Aims and Object of the Experiment

The aim of the experiment presented in this research was to determine whether or not there was a specific mode of behaviour associated with the role of forensic witness. This study focused on the forensic witness situation as a role for the following reasons. First of all, in the theoretical accounts of Freud and Munsterberg the role of the witness is circumstantial. It is not conceived of as a constant condition of the individual. In the first instance, this role requires that the individual be in a position to reproduce information about specific events and stimuli. The second condition of the witness circumstance is that this information is of interest to a third party. For the witness to fulfill their role, they are required by some external agent or entity to relay their knowledge of the specified event. Although this may not necessarily occur, when it does, this agent or entity can be said to be the efficient cause of the behaviour the witness engages in to fulfill their role.

Understood in this way, the role of the witness cannot be isolated from the function of the agent. So, on this account, if there is a specific mode of behaviour associated with the role of forensic witness, it is one that occurs in the context of an identifiable human or social relationship. It can be recalled that both Freud and Munsterberg consider the courtroom to be especially conducive to the disruption of the individual's memory (Freud, 1906, p. 103; Munsterberg, 1908, p. 196-8).

Although the contemporary experiments in the field do not conceive of witness fallibility in terms of a behaviour, they provide an indispensable model for the research and experiment design presented here. These experiments all involved procedures where there was an explicit demand for the individual to remember and to give objective accounts of events they have witnessed. In the light of this, it can be said that some of the conditions under which eyewitnesses may be placed by particular agents or entities in real-life contexts were recreated.

As such these experiment situations can be thought of as artificial reproductions of the circumstances and the role of the eyewitness in their dealings with entities such as law-enforcement officers, legal professionals and forensic psychologists. Although this was a central concern in the contemporary research, the forensic purpose of these studies was not necessarily made explicit to the participants. The object of the experiment presented here was to determine whether or not making this forensic purpose explicit can be used to bring about a greater approximation to the witness role in real-life conditions, and thus test the proposal that a particular mode of behavior can be associated with the witness role.

In order to do this, the experiment primarily relied on the pre-event priming method used by Leichtman & Ceci (Leichtman & Ceci, 1995). Thus the experimental participants were led to believe they were taking part in a forensic psychology experiment from the

outset. Participants in the control condition received no explicit suggestion or misinformation. A second important element was the use of verbal and visual stimulus materials to reinforce the element of suggestion in the experiment. The rationale for this derives from Pezdek's finding that both visual and verbal information and misinformation are semantically analyzed in a similar way (Pezdek, 1977).

A further condition was the use of a variation on Ackil & Zaragossa's forced confabulation design (Ackil & Zaragossa, 1998). This method was employed insofar as experimental participants were given a very restricted range of response criteria. The reason for using this method was to reduce the possibility of participants deliberating too much over their responses and thus changing their minds. It was decided that this could have led to difficulties in reaching accurate measurements of the effects of the independent variable. In a more general sense, the type of experiment that was conducted was a version of Elizabeth Loftus's original Misinformation experiments (Loftus, 1975; Loftus et al., 1974, 1977, 1978).

For the purposes of this study, the behaviour that the experimental manipulation was intended to bring about may be defined in the following terms. The participant's cooperation with the idea that a crime has taken place in response to the suggestion that their purpose in the experiment is to record the occurrence of a crime upon viewing a specified series of events. Of course, this is not proposed as a general definition of forensic witness behaviour. It is, rather, a definition that relies on the finding in contemporary experiments that participants in this type of procedure display a significant tendency to cooperate with ideas and items of information that are suggested to them in experimental conditions. It is proposed that this observed tendency is not only an indicator of the vulnerability of memory to suggestion, but is also a sign that the participant is prepared to agree with the individual who supplies the information.

The research question can thus be framed in the following way: *When an individual*

is called upon to fulfill the role of forensic witness, can their cooperation with the ideas and information that are suggested to them be classified as a specific mode of behaviour? The present experiment was designed to produce conditions which would be adequate for participants to assume a role like this in artificial circumstances, and to measure whether or not cooperative behaviour could be observed. The main hypothesis is that there will be significantly higher levels of crime recording behaviour among individuals who have assumed the forensic witness role compared with individuals who have not assumed this role.

Hypotheses

(H.1) There will be significantly higher levels of crime recording behaviour among individuals who have assumed the forensic witness role compared with individuals who have not assumed this role.

(H.2) The gender of participants will be a factor in crime recording behaviour.

(H.3) The age of participants will be a factor in crime recording behavior.

(H.4) There will be a significant difference in confidence levels in recording between participants who record crime and those who record no crime.

(H.5) Participants who score highly on levels of agreeableness as a personality trait will display high levels of crime recording behaviour.

Methods

Participants

Participants in both group conditions were mature students studying psychology at DBS School of Arts. The groups were chosen in cooperation with lecturers from the Department of Psychology. Although the selection of mature students was planned, the exact distribution of age and gender in the experiment and control conditions was not known in advance of the experiment. The experimental group consisted of 23 individuals aged between 24 and 43. The mean age was 32, with a standard deviation of 5.21. There were 3 males in the group and 20 females. The control group consisted of 23 individuals aged between 24 and 59. The mean age was 37, with a standard deviation of 9.77. There were 9 males and 14 females in this group.

Design

The study used a between-groups experiment design. The experimental manipulation used was misinformation and suggestion. The dependent variable was suggestibility in the form of participants' cooperation with the idea that they had witnessed a crime in the experiment. The study also sought to establish whether the variables of age, gender and agreeableness as a personality trait were a factor in how the participants responded. Participants were also asked to rate their confidence levels in the responses they gave.

Materials

The following materials were used in both conditions of the procedure. A Power Point presentation consisting of four slides; a 15 second film clip; and a specially designed paper and pencil questionnaire. Included within this questionnaire was Gosling's Ten Point

Personality Inventory (TIPI) (Gosling et al., 2003). The stimulus materials are reproduced in full in Appendix 1, and the Power Point slides are included in Figures 1 and 2 of the Procedure section. The questionnaire is reproduced in full in Appendix 2.

The Power Point slides and the film were the primary stimulus materials. Although the same film was used in both conditions, the Power Point slides differed between the experimental and control conditions. The film clip used was taken from stock video footage of London commuters. The questionnaire used was the same in both conditions.

The questionnaire consisted of five pages. The first page consisted of a brief introduction, which explained to the participant that they were invited to take part in an experiment. It also explained that their participation was dependent upon their consent and was anonymous. No details of the experimental field or purpose were given on this page. The second page, reproduced in Figure 2, was to be completed after the experiment had been explained and the experimental stimulus had been applied via the Power Point slides and the film clip. This page of the questionnaire gave the participant three options for responding to the stimuli.

The third page asked the respondent for their confidence level, their age and their gender. The confidence level was measured on a scale of 1 to 10. One being the lowest, and 10 being the highest.

The Ten Item Personality Inventory Scale (TIPI) (Gosling et al., 2003) was reproduced on page 4. This inventory scale was used to measure personality traits according to Costa & McCrae's OCEAN model: Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism (Costa & McCrae, 1992). Participants were required to rate their agreement with the items on the scale numerically from 1 to 7: 1) Disagree Strongly; 2) Disagree Moderately; 3) Disagree a Little; 4) Neither Disagree nor Agree; 5) Agree a Little; 6) Agree Moderately; 7) Agree Strongly (Gosling et al. 2003).

The final page of the questionnaire offered participants contact details if they had any further questions about the experiment. It also stated that they could seek advice or counseling if they had experienced any sort of distress as a result of the experiment. This was included for two reasons: the experiment involved deception; and the content of the experiment was related to crime.

Procedure

In the experimental condition, the individual conducting the experiment was introduced to the group by their lecturer. The group was told that they were being invited to take part in a forensic psychology experiment. Slide 1 of the Power Point material was on display as this was said. This was intended as the first experimental manipulation of the procedure. Once the group had given their verbal consent to complete the procedure, the participants were asked if they knew what forensic psychology was. They were informed that forensic psychology is the application of psychology to crime and the legal system. The purpose of this was to begin priming the experimental group for the forensic witness role.

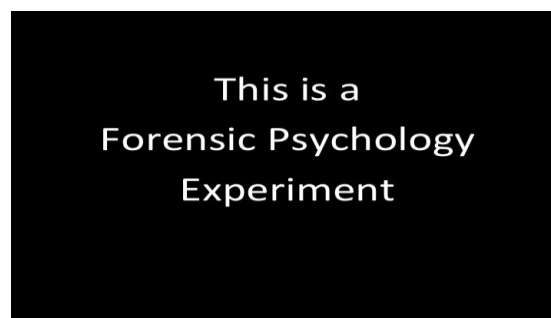


Figure 1. *Experimental group: Slide 1 of the Power Point Element of the Experiment.*

Next the participants were shown slide 2. This slide was presented in a neutral and explanatory manner as it is shown in both experimental and control conditions. The purpose of this was to encourage the participants to focus on the procedure.

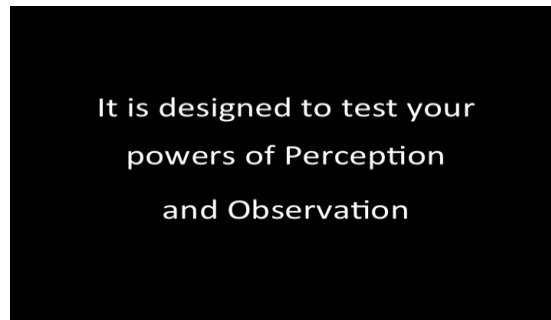


Figure 2. *Experimental group: Power Point Slide 2.*

Slide 3 was shown for two purposes. The first purpose is to reinforce the priming of participants as forensic witnesses, and the second was to introduce misinformation and suggestion regarding the film they were about to see. Specifically, this misinformation and suggestion were contained in the phrases 'surveillance footage' and 'a crime is taking place'. This slide is shown in Figure 3.

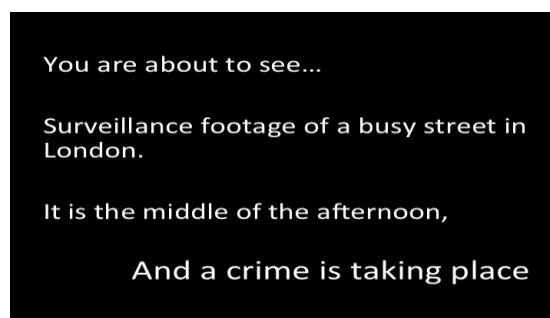


Figure 3. *Experimental Group: Power Point Slide no. 3. Second Verbal and Visual Experimental Manipulation.*

Slide 4. was neutral and was shown to both the experimental and control groups just before the film clip was played. As with slide 2, the purpose of slide 4 was to encourage the group to

focus on the film clip. As each of these slides was shown, the experimenter asked the group if they understood the procedure and if they had any questions. The experimenter made a point of emphasizing the experimental manipulations as they occurred. This was done to further reinforce the forensic witness role. As slide 4 was displayed, the participants were instructed to turn to page 2 of the questionnaire so that that they could see the response options (Figure 5) before the film clip was played.

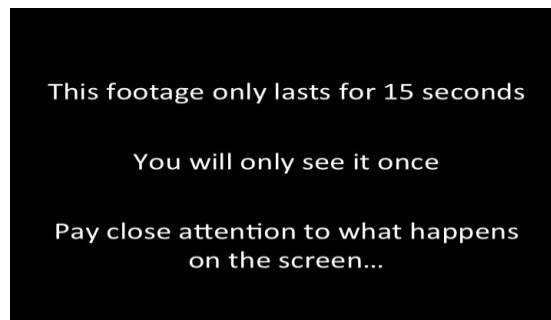


Figure 4. *Experimental Group: Power Point Slide 4.*

The response options on page 2 of the questionnaire are shown in Figure 5. Showing the response options to the participants intended as a further experimental manipulation, chiefly so that specific crimes were suggested to them in advance of the film as the final experimental manipulation.

Which of the following did you see?

- A Drug Deal
- Someone Stealing from a Newsstand
- Other: Please specify in 5 words or fewer

Figure 5. *Questionnaire Response Options, Page 2. This was Shown to Directly Suggest the Nature of the Events Depicted in Advance of Playing the Film Clip for the Participants.*

The 15 second film was played immediately afterwards. This film was chosen because the

two events in the questionnaire appear to correspond to events in the film clip.

Although there was some degree of ambiguity in the clip, no crime was in fact depicted in it.

When the clip was finished, the participants were asked to complete all sections of the questionnaire. At the end of the experiment the experimenter affirmed that no crime had been depicted, and that the experiment relied on deception. The experimenter then told the group that the purpose of the experiment was to measure the effects of suggestion. Contact details and the offer of a more detailed explanation of the procedure were given verbally and were written on page 5 of the questionnaire. Participants were advised to keep page 5 should they wish to contact the experimenter for a further explanation, or if they wished to avail of counseling. This was done because the experiment involved the theme of crime, and because it used deception. The duration of the experimental procedure was roughly 7 minutes.

The procedure in the control condition was the same, except that all suggestive influences and misinformation were absent. After the experimenter was introduced by the lecturer, the procedure was explained to the group as a 'psychology experiment'. The group were shown an altered version of slide 1 from the experimental condition at the same time (Figure 6). Participants were given the option to consent or withdraw at this point, both verbally and in writing on page 1 of the questionnaire (Appendix 2).



Figure 6. *Control Group: Power Point Slide 1.*

Slide 2 in Figure 7 was the same for the control group as it was for the experimental group

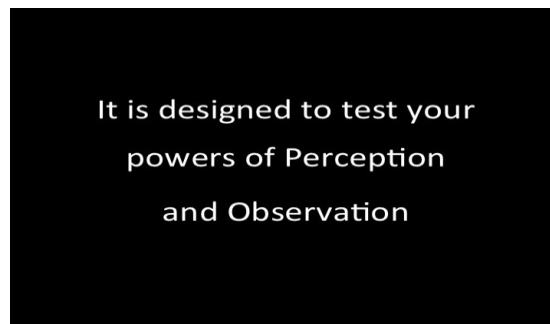


Figure 7. *Control group: Power Point Slide 2.*

In Slide 3, the misinformation and suggestion phrases were removed. Slide 4 was the same for both experimental and control conditions. In the control group, the participants had no further information before seeing the film clip than that contained on slide 4. Unlike the experimental group, the control group were not shown page 2 of the questionnaire (Figure 5) until the film clip was finished. Slides 3 and 4 in the control condition are presented in Figure 8.



Figure 8. *Control Group: Slides 3 and 4.*

Once the film clip was played, the control participants were asked to turn to page 2 (see Figure 5 above). They were asked to write down only what they saw in the film. Once this was completed, they were asked to fill out the remaining pages of the questionnaire. This stage of the procedure was the same as it was in the experimental condition.

Once the questionnaires were completed, the group were informed of the purpose of the procedure, and that it was part of a wider study into eyewitness fallibility. They were offered the opportunity to ask further questions, or avail of counseling due to the theme of the experiment. This was done verbally by the experimenter, and written contact details were given on page 5 of the questionnaire in case they wished to do so in the future. No deception was used in the control condition, therefore this dimension of the experiment was not discussed. The duration of the control procedure was about 6 minutes.

Results

Descriptive Statistics

The overall number of participants in the study was 46. Across all 46 participants, 20 different events were recorded in the response sections of the questionnaires (Figure 5 and Appendix 2). The frequency of the each event recorded is represented in Table 1. Twenty-one out of all 46 participants recorded a crime. 4 participants recorded a drug deal, while 15 recorded Stealing. One participant recorded both crimes (Saw crimes 1&2 in Table 1), and 1 participant recorded a unique crime (Pickpocket in Table 1).

Table 2 represents the overall frequency of crime recording, and how this is broken down numerically between the experimental and control conditions. In the experimental group numbering 23 people, 11 recorded a crime, while in the control group, 10 out of 23 people recorded a crime. The percentages of this breakdown are represented graphically in Figure 9.

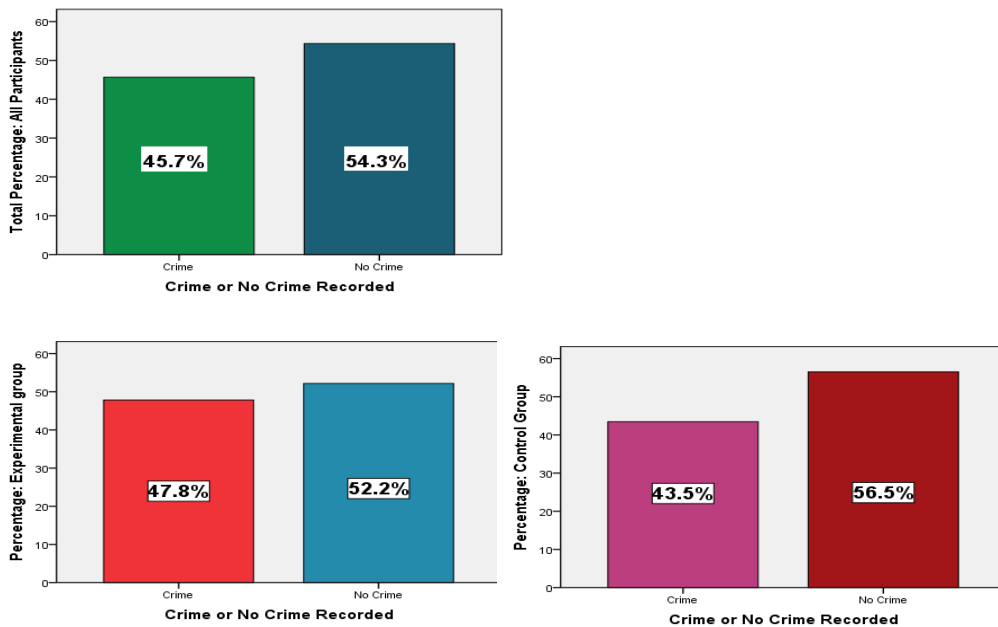


Figure 9. *Percentage Breakdown of Crime Recording: All Participants; Experimental Group; and Control Group.*

Table 1. *Frequency Table for All Events Recorded across both Experimental and Control Conditions.*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Drug Deal	4	8.7	8.7	8.7
	Stealing	15	32.6	32.6	41.3
	Saw No Crime	11	23.9	23.9	65.2
	*Saw Crimes 1&2	1	2.2	2.2	67.4
	People Eating	2	4.3	4.3	71.7
	People Walking and Talking	3	6.5	6.5	78.3
	Man Inspecting Bins	1	2.2	2.2	80.4
	Person Texting	1	2.2	2.2	82.6
	Clocks Telling Same Time	1	2.2	2.2	84.8
	People Coming and Going	1	2.2	2.2	87
	A White Van	1	2.2	2.2	89.1
	People Walking in Airport	1	2.2	2.2	91.3
	Busy Street - Pedestrians	2	4.3	4.3	95.7
	*Pickpocket	1	2.2	2.2	97.8
	A Crowd of People	1	2.2	2.2	100
Missing		0			
Total		46	100	100	

*Note: items "Saw crimes 1&2" and "Pickpocket" are recorded as crimes.

Table 2. *Frequencies of Crime and no Crime Recording a) All Participants; b) Experimental Participants; and c) Control Participants*

a) Crime or No Crime Recorded: All Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Crime	21	45.7	45.7	45.7
	No Crime	25	54.3	54.3	100
Missing		0			
Total		46	100	100	

b) Crime or No Crime Recorded: Experimental Group

Valid	Crime	11	23.9	47.8	47.8
	No Crime	12	26.1	52.2	100
	Total	23	50	100	
Missing	System	23	50		
Total		46	100		

c) Crime or No Crime Recorded: Control Group

Valid	Crime	10	21.7	43.5	43.5
	No Crime	13	28.3	56.5	100
	Total	23	50	100	
Missing	System	23	100		
Total		46			

The age range across all participants was 24 to 59, with a mean age of 35. The standard deviation was 8.08. The age range in the experimental group was 24 to 43, with a mean age of 32. The standard deviation was 5.21. In the control group, the age ranged from 24 to 59, with a mean age of 37. The standard deviation was 9.77.

The confidence levels of the participants' responses in the questionnaire were measured on a scale of 1 to 10; 1 was the lowest confidence level, while 10 was the highest. There was a mean confidence level of 5.83 across all participants, and the standard deviation

was 2.95. Further statistical analysis of confidence levels in relation to crime recording, age, gender and agreeableness are reported in the Inferential Statistics section.

The distribution of gender across all participants was 12 males and 34 females. 26.1% of all participants were male, while 73.9% were female. The standard deviation was .44. Within the experimental group, there were 3 males and 20 females. 13% were male and 87% were female. The standard deviation was .34. In the control group, there were 9 males and 14 females. 39.1% were male and 60.9% were female. The standard deviation was .49.

Gosling's Ten Point Personality Inventory was recoded into Costa & McCrae's OCEAN model of the Big Five personality traits (Costa & McCrae, 1992). Descriptive statistics were acquired for the following personality traits across all participants: openness, conscientiousness, agreeableness, extraversion and neuroticism. These traits were scored from 1 to 7. One was the lowest rating for a trait while 7 was the highest. Openness had a mean score of 5.38, with a standard deviation of 1.01. Conscientiousness had a mean score of 5.4, with a standard deviation of 1.25. The mean score for Extraversion was 4.59, and the standard deviation was 1.38. Agreeableness had a mean score of 5.2. The standard deviation was 1.08. Neuroticism had the lowest mean score at 3.15, with a standard deviation of 1.29. All of the OCEAN traits showed a normal distribution.

Inferential statistics

A Chi-Square analysis was used to test the main hypothesis that there will be significantly higher levels of crime reporting behaviour among individuals who have assumed the forensic witness role compared with individuals who have not assumed this role. This was done to test the effect of the independent variable, suggestion and misinformation, as it was applied in the experimental group. Reports of crime recorded and no crime recorded

were crosstabulated between results from the experimental group and the control group.

A Chi-Square test was performed on the frequency and percentages of crime recorded and no crime recorded in the experimental group and the control group. No significant difference in crime recording was found between the two groups at the .05 level of significance. $X^2(1, N=46) = .088, p = .767$. This analysis is represented in Table 3.

Table 3. *A Chi-Square Analysis Showing the Frequency and Percentage Differences between the Experimental and Control Groups in Recording a Crime.*

	Experimental Group	Control Group	Total
Crime	$f=11$	$f=10$	21
% Within Group	47.8%	43.5%	
No Crime	$f=12$	$f=13$	25
% Within Group	52.2%	56.5%	
Total	23	23	46

Note: p significance at the .05 level

To test the hypothesis further, an independent samples t-test was performed to see if the effect of the experimental manipulation was significant within the experimental group. The t-test found that although there was a difference in the means there was no significant difference in the experimental group between crime recording ($M=12.27, SD 7.17$) and no crime recording ($M=11.75, SD=6.71$) at the .05 level of significance ($t(21)=-.181, p=.588$. CI 95% for mean difference -5.5 to 6.50).

The same analysis was carried out on the control group. An independent samples t-test showed that although the means differed, there was no significant difference in the control group between crime recording ($M=9.1, SD 7.32$) and no crime recording

($M=14.23$, $SD=14.23$) at the .05 level of significance ($t(21)=-.181$, $p=.071$. CI 95% for mean difference -10.73 to .477). This analysis is represented in Table 4.

Table 4. *Two Independent Samples T-Tests Showing the Differences in Crime Recording within a) the Experimental Group where Suggestion was Used, and within b) the Control Group where Suggestion was Not Used.*

a) Experimental group						
Variable	Groups	Mean	SD	t	df	p
Suggestion	Crime	12.27	7.171	.181	21	.588
	No Crime	11.75	6.717			
b) Control Group						
No Suggestion	Crime	9.1	7.325	-1.9	21	.071
	No Crime	11.75	6.717			

Note: p significance at .05 level

In the light of these tests, the null hypothesis cannot be rejected. There was no significant difference found between the experimental and control conditions, and neither condition showed a significant difference when analyzed independently.

Further statistical analyses were conducted to determine whether the effect of the experimental manipulation was associated with any of the following factors: age, gender and personality traits. The levels of confidence in crime recording and no crime recording were also analyzed.

A Chi-Square test was done to see if difference in gender was a significant factor in crime recording across both conditions. No significant difference between genders in recording crime was found across both conditions at the .05 level of significance, $X^2(1, N=46)=.124$, $p=.725$.

A second Chi-Square test was done to test the hypothesis that difference in the gender of participants was a factor in the likelihood of crime recording behaviour. No significant difference was found between male and female respondents in recording a crime in the experimental group at the .05 level of significance, $X^2(1, N=23)=.491$, $p=.484$. Also, no significant difference between the genders in crime recording was found in the control group at the .05 level of significance: $X^2(1, N=23)=.006$, $p=.940$. Therefore the null hypothesis cannot be rejected. These Chi-Square test for gender and crime recording within the experimental group and within the control group are represented in Table 5.

Table 5. *Chi-Square Tests for Gender and Crime Recording*

a) The Difference between Male and Female Respondents in Recording a Crime in the Experimental Group.

	Male	Female	Total
Crime	$f=2$ 66.7%	$f=9$ 45%	11 47.8%
No Crime	$f=1$ 33.3%	$f=11$ 55%	12 52.2%
Total	3	20	23

b) The Difference between Male and Female Respondents in Recording a Crime in the Control Group.

	Male	Female	Total
Crime	$f=4$ 44.4%	$f=6$ 42.9%	10 43.5%
No Crime	$f=5$ 55.6%	$f=8$ 57.1%	13 56.5%
Total	9	14	23

Note. p significance at .05 level.

In order to test the hypothesis that age could be a factor in the likelihood of crime recording, independent samples t-tests were used to analyze differences in age and crime recording across all participants, and within the experimental and control conditions. These test are represented in Table 6.

Table 6. *Independent Samples T-Tests Showing the Relationship of Age and Crime Recording Across All Participants, and the Experimental and Control Groups Individually*

Variable	Groups	Mean	SD	t	df	p
Age All Participants	Crime	33.76	8.37	-5.3	44	.599
	No Crime	35.04	7.96			
Age in Experimental Group	Crime	32.09	6.48	-.07	16.44	.945
	No Crime	32.25	4.02			
Age in Control Group	Crime	35.6	10.09	-.482	21	.635
	No Crime	37.62	9.84			

Note. *p* significance at .05 level.

The independent samples t-test of age and recording crime ($M=33.76$, $SD= 8.37$) and recording no crime ($M=35.04$, $SD=8.37$) across all participants showed a difference in the mean age at the .05 level of significance. However, no significant difference was found ($t(44)=-.53$, $p=.599$, CI 95% of mean difference -6.14 to 3.58).

In an independent samples t-test, the mean ages of those recording crime ($M=32.09$, $SD= 6.48$) and those recording no crime ($M=32.25$, $SD= 4.02$) within the experimental group differed very little at the .05 level of significance. No significant difference was found ($t(21)=-.071$, $p=.944$. CI 95% for mean difference -4.79 to 4.47).

An independent samples t-test of the differences in the mean ages of those recording crime ($M=35.6$, $SD= 10.09$) and those recording no crime ($M=37.62$, $SD=9.84$) in the control group differed at the .05 level of significance. However, no significant difference was found ($t(21)=-.482$, $p=.635$, CI 95% for mean difference -10.72 to 6.68). In the light of these tests, the null hypothesis cannot be rejected.

Confidence levels in participant response were also analyzed. Independent samples t-test were done to determine if the mean confidence levels of those recording crime differed significantly from those recording no crime. A preliminary independent samples t-test analysis across all participants produced the following results. The independent samples t-test showed that there was no significant difference in the mean confidence levels at the .05 level of significance between the experimental group ($M=5.7$, $SD 3.03$) and the control group ($M=5.96$, $SD=2.93$), $t(44)=-.296$, $p=.768$, CI 95% of mean difference -2.03 to 1.51).

A second independent samples t-test was used to analyze the difference in mean confidence levels within in the experimental group between those who recorded a crime ($M=4.27$, $SD=2.57$) and those who recorded no crime ($M=7$, $SD= 2.92$) at the .05 level of significance. Analysis showed that there was a significant difference between them, with confidence levels higher in those who recorded no crime ($t(21)=-2.36$, $p=.028$, CI 95% of mean difference -5.12 to -.33). Therefore the alternative hypothesis cannot be rejected in the case of the experimental group.

A third independent samples t-test showed that the mean confidence level in the control group differed between those who recorded a crime ($M=5$, $SD=2.05$) and those who recorded no crime ($M=6.69$, $SD= 3.35$). However, there was no significant difference found ($t(21)=-1.4$, $p=.175$, CI 95% of mean difference -4.2 to .817). The differences in mean confidence levels within the experimental group and within the control group are represented in Table 7.

Table 7. *Independent Samples T-Tests Showing the Difference in Confidence levels in Recording Crime or No Crime Between the Experimental Group and the Control Group.*

Variable	Groups	Mean	SD	t	df	p
Confidence Levels in Experimental Group	Crime	4.27	2.57	-2.36	21	.028
	No Crime	7	2.9			
Confidence Levels in Control Group	Crime	5	2.05	-1.4	21	.175
	No Crime	6.69	3.35			

Note: *p* significance at .05 level

Having determined that the participants in the experimental group who recorded no crime had significantly higher confidence levels than those who did record a crime, further statistical tests were conducted to see if this could be explained by any of the other dependent variables in the experiment: age, gender and the Big Five personality trait of agreeableness. In addition, a repeated measures ANOVA was done to determine whether or not any of the OCEAN Big Five personality traits (Costa & McCrae, 1992) was a significant factor in crime recording in the experimental condition.

A Linear Regression was done to see if age in the experimental group was a predictor of confidence. The analysis showed that age predicted only 1.9% of confidence levels, therefore age cannot be said to be a significant predictor of the significant difference in confidence levels found in the experimental group at the .05 significance level ($F(1,21)=.402$, $p=.057$, $R^2=.028$) (Age, $\beta=-.137$, $p=.533$, CI 95% for B $-.341$ to $.182$).

Due to the abnormal distribution of genders in the experimental condition, a Mann Whitney U test was done to see if gender could account for the significant difference in

confidence levels observed between recording a crime and recording no crime. It showed that the mean confidence levels for males (Mean Rank=13.38) and females (Mean Rank=11.37) did not differ significantly at the .05 significance level ($U=24.5, p=.507$).

An independent samples t-test was carried out to see if agreeableness was one of the OCEAN Big Five traits (Costa & McCrae, 1992) that could account for the higher confidence levels in no crime in the experimental group. No significant difference was found ($t(20)=.644, p=.527$, CI 95% of mean difference -.58 to 1.1). The significant difference in confidence levels in the experimental condition could not be explained by any of the other experiment variables.

The repeated measures ANOVA, using the Greenhouse-Geisser correction showed that the recording of crime in the experimental group did not differ according to personality traits as defined in the OCEAN Big Five model ($F(3,66)=.743, p=.536$) with an effect size of .034. Therefore only 3% of variation in crime recording in the experimental group was explained by OCEAN personality traits, and therefore they could not be considered a statistically significant factor.

Discussion

Interpretation

The aim of this research was to determine whether or not a specific mode of behaviour could be observed in individuals who had assumed the role of forensic witness. The theoretical accounts of how eyewitnesses report crimes, particularly those by Freud and Munsterberg, appeared to support the idea that their behaviour is influenced by the circumstances attached to acting in this capacity (Freud, 1901 & 1906; Munsterberg, 1908). It was argued that, on this account, the forensic witness had a role to fulfill and that fulfillment of this role was dependent on their communicating specific facts which are sought by a third party. The agent or entity that seeks this information was thus considered to be the efficient cause of the behaviour that the witness engages in to fulfill their role.

The contemporary experiments that studied suggestion and misinformation effects indicated that a significantly high number of individuals display the tendency to cooperate with suggestion and misinformation in experimental conditions (Loftus, 1975; Loftus et al., 1974, 1977, 1978; Pezdek, 1977; Leichtman & Ceci, 1995; Ackil & Zaragoza, 1998; Gombos et al. 2011). For this reason, the choice was made to define forensic witness behaviour for the purposes of this experiment as the participant's cooperation with the experimental manipulation of suggestion and misinformation as the independent variable. It was stressed that this cooperation was not proposed as a general definition of forensic witness behaviour. Rather, cooperation was chosen because, on the one hand, it was one proven phenomenon of the eyewitness role, and on the other, because it was considered to be a readily measurable behaviour associated with the eyewitness circumstance. In the light of this, the research question was posed in the following way: *When an individual is called upon to fulfill the role of forensic witness, can their cooperation with the ideas and information that*

are suggested to them be classified as a specific mode of behaviour? This gave rise to the main hypothesis that there will be significantly higher levels of crime reporting behaviour among individuals who have assumed the forensic witness role compared with individuals who have not assumed this role.

The statistical analysis showed that no significant difference in this respect was observed between the 23 participants in the experimental condition and the 23 participants in the control condition. In the experimental group, 11 participants recorded a crime, while in the control condition 10 participants recorded a crime. Further analysis showed that none of the dependent variables of age, gender and the personality trait of agreeableness was significantly associated with recording crime in the experimental group. The only statistically significant result in the analysis was that the 12 participants in the experimental group who recorded no crime showed higher levels of confidence in their responses. This was not found to be explicable in statistical terms by age, gender or agreeableness. It was decided that there was no grounds for generating any new hypotheses in the light of these results.

Integration to Theories and Research

A statistically significant result in respect of the main hypothesis might have provided some support for an explanation of eyewitness testimony in terms of a measurable behaviour. In the first instance, the experiment sought to shed light on the disruption of recall and memory, as observed by Freud, Munsterberg and Bartlett, attaching to the requirement made upon the individual to reproduce objective facts (Freud, 1901, p. 147-8; Munsterberg, 1908, p. 196-8; Bartlett, 1932, pp. 204-5).

In Bartlett's theory, there is no explicit link made between the forensic situation and the fallibility of memory in this regard. His theory was of interest in this connection because of its explanatory value concerning the difficulty in reproducing objective facts

generally (Bartlett, 1932, pp. 204-5). Of course, the general manifestation of this difficulty in human life is readily acknowledged by Freud and by Munsterberg (Freud, 1906, pp. 217-229; Munsterberg, 1908, p. 18). The main theoretical point of interest was Freud's and Munsterberg's respective assertions that this difficulty is especially manifest in the forensic situation where the demand made upon the individual to speak the truth is amplified (Freud, 1901, pp. 147-8; Munsterberg, 1908, p. 47). This experiment was designed as a way of artificially producing that situation so that a measurable comparison could be made between individuals who were explicitly required to meet this demand and individuals who were not. The lack of a statistically significant result either way meant that the matter of the procedure's integration to these theories was undecided.

One of the main purposes of recent experimental research in this field was to ascertain how likely individuals in general were to be influenced by suggestion and misinformation. A further dimension of these experiments was the determination of the cognitive status of the suggested material and misinformation in terms of long-term memory. The experiment presented here was limited to the dimension of the immediate effect of suggestion and misinformation, and to its influence on short-term memory. The measurement of long-term memory effects was not considered necessary for the purposes of this research.

The experiment presented here relied primarily on the original experiments in the field by Elizabeth Loftus et al. in the 1970s, which consistently showed that individuals were significantly likely to cooperate with suggestion and misinformation (Loftus, 1975; Loftus et al., 1974, 1977, 1978). The second model it relied on was Leichtman & Ceci's 1995 pre-event suggestion design (Leichtman & Ceci, 1995). The application of pre-event suggestion was considered necessary in order to create the forensic witness situation in the experimental group. That is to say, it was judged to be the most effective way to impose the experimental condition.

In the same vein, the forced confabulation models devised by Ackil & Zaragoza and Gombos et al. appeared to offer an expedient means for obtaining an accurate measure of the effect of the experimental manipulation by limiting the response options in the questionnaire (Figure 5) (Ackil & Zaragoza, 1998; Gombos et al. 2011). The rationale for imposing this limit was to avoid the possibility of participants having to deliberate for too long in their responses. Firstly, there was the possibility that too much deliberation and too many response options would weaken the effect of the experimental manipulation. And secondly, limiting the response options was considered to be the best way to avoid participants changing their minds in respect of their responses. This could have led to uncertainty as to whether a clear measurement of the manipulation would be achieved.

A statistically significant result would perhaps have provided some grounds for asserting that the novelty of imposing the forensic witness situation in the experimental paradigms designed by Loftus et al. and Leichtman & Ceci was justified (Loftus, 1975; Loftus et al., 1974, 1977, 1978; Leichtman & Ceci, 1995). In the light of the results observed here, there was no way of saying if this was the case.

Critical Reflection

In spite of the fact that the data did not fit the main hypothesis, there may be some grounds for saying that the design of this experiment had certain merits. First of all, as a procedure, the experiment proved to be straightforward and easy to conduct, and the participants had no trouble understanding what they were being asked to do and why. This was considered to be favourable because it meant that the experiment could potentially be repeated without altering its basic structure. The Power Point element of the procedure was particularly beneficial in this respect.

Although it cannot be decided if the experimental manipulation was effective, the way in which the experiment was designed meant that its application in the experimental condition was clearly identifiable. That is to say, the application of suggestion and misinformation was the only identifiable difference in procedure between the experimental and control conditions.

One of the major problems that arose was whether or not the assumption by any of the experimental participants of the forensic witness role in could have been measured in any meaningful sense. This gave rise to the following difficulty. It could not be decided if any of the crime recording behaviour in the experimental group was brought about due to the application of the independent variable. Moreover, there was no way of determining whether crime recording behaviour in the experimental group was substantively different from crime recording behaviour in the control group. The experiment design neglected to provide a means of testing for a potential difference. It should be added that statistically significant results in crime recording behaviour deriving from the dependent variables of age, gender and agreeableness would not have compensated for this flaw.

These concerns notwithstanding, the results of this study did not supply any reason for abandoning the main hypothesis. They did not represent any challenge to the theory that the forensic witness is especially susceptible to the effects of suggestion (Freud, 1906; Munsterberg, 1908). By the same merit, there were no grounds for overturning the interpretation given here of the various findings of contemporary experiments in this field that was applied in this research (Loftus, 1975; Loftus et al., 1974, 1977, 1978; Pezdek, 1977; Leichtman & Ceci, 1995; Ackil & Zaragoza, 1998; Gombos et al. 2011). Namely, that participants in the experimental conditions of this type of procedure show significantly high levels of cooperation with ideas and information that are suggested to them.

Future Directions and Applications

Before any major changes are made to the experiment design, it may be worth repeating the experiment in its current form. The primary purpose of this would be to test the finding in relation to the main hypothesis that was presented here. Another possibility that presents itself is to increase the degree of suggestion used within the parameters of the current design. One way of achieving this might be to make the priming procedure more elaborate. Priming the experimental participants two weeks in advance of witnessing the stimulus, for example, may have brought about a more pronounced effect on crime recording behaviour. Leichtman & Ceci's results indicate that this approach might have been propitious for imposing an eyewitness role more effectively in the experimental condition in advance of the stimulus. An approach like this may offer a better means of establishing, and ultimately measuring, the efficacy of the application of the experimental manipulation.

With this in mind, further redesign of this experiment would seek to include an essential measure that was absent from the procedure. This would have taken the form of a measure for any substantive difference between crime recording behaviour in the experimental group and crime recording behaviour in the control group. This could involve introducing a qualitative dimension to the post-event questionnaire. Participants could be asked to report on the how the pre-event material affected their frame of mind, and if they recorded a crime, they could be asked what motivated them to do so. This variation may also go some way towards providing a measure of the participants' own evaluation of the effects of the suggestion and misinformation manipulations that were applied.

The intended application of this research was to increase knowledge of forensic witness behaviour. It was considered that such knowledge would be of value to forensic practitioners and law enforcement agencies. For example, Leichtman & Ceci's expressed

purpose in their experiment was to demonstrate the ways in which children can be manipulated as forensic witnesses (Leichtman & Ceci, 1995, pp. 568-69). It is proposed that there are many circumstances in which forensic witnesses of all ages may be vulnerable to the influence of manipulation in the form of suggestion and misinformation, and that it should be possible to distinguish this phenomenon from mendacity or simple error.

Conclusion

The research presented here sought to establish whether or not a specific mode of behaviour could be identified in individuals who are called upon to fulfill the role of forensic eyewitness. For the purposes of this particular experiment, this mode of behaviour was defined within certain parameters. Namely, the cooperation of the individual with ideas and information that have been suggested to them. The rationale for this approach relied firstly on the theoretical propositions of Sigmund Freud and Hugo Munsterberg regarding the influence of suggestion and misinformation the forensic witness situation, and on the findings of Frederic Bartlett in respect of constructive memory (Freud, 1889, 1901, 1906, 1921; Munsterberg, 1908; Bartlett, 1932). Secondly, it relied on the experimental findings of Loftus et al., Pezdek, Leichtman & Ceci, Ackil and Zaragoza and Gombos et al. (Loftus, 1975; Loftus et al., 1974, 1977, 1978; Pezdek, 1977; Leichtman & Ceci, 1995; Ackil & Zaragoza, 1998; Gombos et al. 2011).

Although this experiment did not achieve a statistically significant result, it was indicated that there were grounds for repeating the procedure in order to test this result. In addition to this, several adjustments to the design were identified for testing the experimental hypothesis further.

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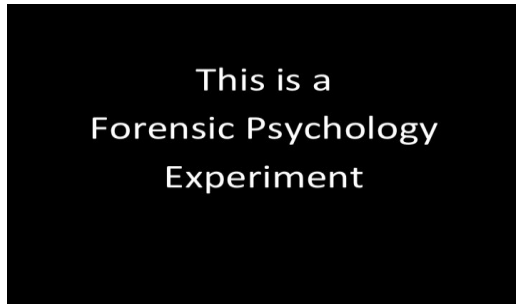
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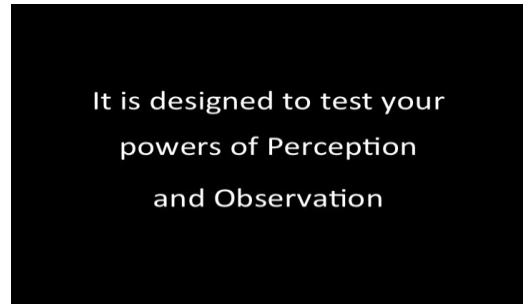
Appendix 1.

1) Power Point Materials Used in the Experimental Condition.

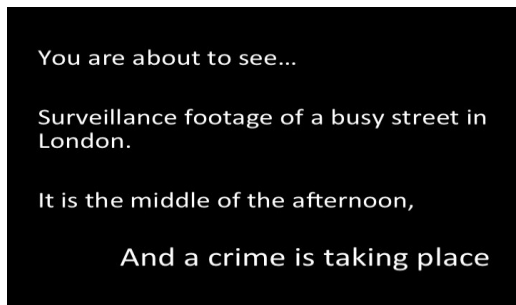
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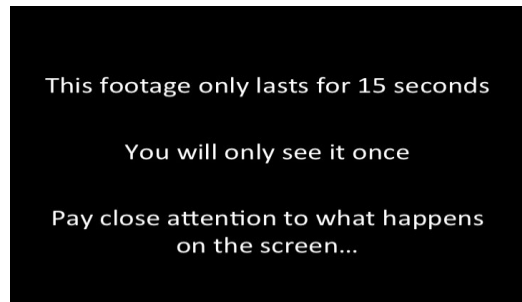
Slide 2



Slide 3



Slide 4

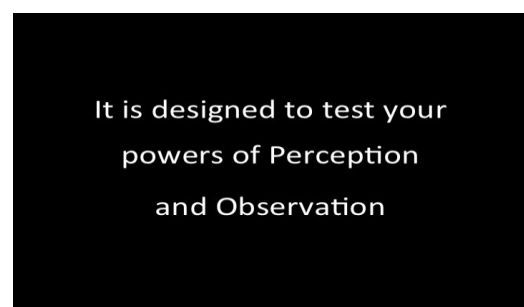


2) Power Point Materials Used in the Control Condition.

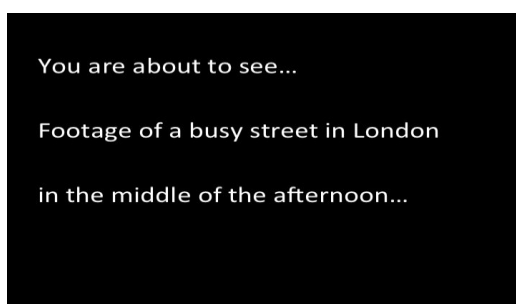
Slide 1



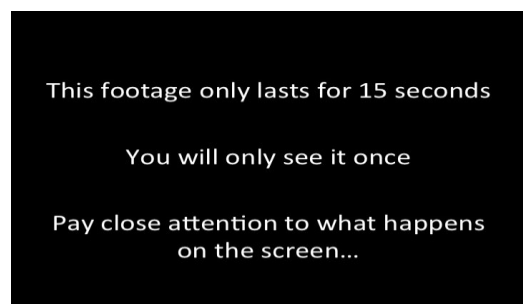
Slide 2



Slide 3



Slide 4



Appendix 1

3) Film Clip: Experimental And Control Conditions.

(Formats: Quicktime Movie Player; Windows Media Player)



This video footage is the work of *VideoStock 50*, acquired from Pond5: Royalty Free Licence, ID: 50444695. <http://www.pond5.com/stock-footage/50444695/business-people-canary-wharf-london-financial-district-engla.html>

Appendix 2

(Questionnaire page 1)

Please do not turn to the following page until
you are asked to do so

Your participation in this experiment is highly valued, however, it is also completely voluntary. If you do not wish to participate, please leave all sections of this document blank.

If you do consent to participate, please ensure that you complete all sections of the questionnaire.

Please **DO NOT** write your name, Student ID number or any other identifying mark on this questionnaire.

Your participation and the data generated by this experiment are completely anonymous. A written report on this experiment will be submitted for examination purposes.

Appendix 2

(Questionnaire page 2)

Which of the following did you see?

(Mark box with an x)

- A Drug Deal
 - Someone Stealing from a Newsstand
 - Other: Please specify in 5 words or fewer.
-

Important

Please ensure this page is completed before you turn
to the next page

Appendix 2

(Questionnaire page 3: Gosling's Ten Point Personality Inventory: TIPPI (Gosling et al., 2003)

How Confident are you about your answer on a scale of 1 to 10? 10 being the highest level of confidence, 1 being the lowest

(Please mark with an x)

(1)_(2)_(3)_(4)_(5)_(6)_(7)_(8)_(9)_(10)_

Please state your age and gender:

Age: _____

Gender: _____

Important

Please ensure this page is completed before you turn to the next page

Appendix 2

(Questionnaire page 4. Gosling's Ten Point Personality Inventory (Gosling et al., 2003))

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to ***indicate the extent to which you agree or disagree with that statement.***

You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
1	2	3	4	5	6	7

I see myself as:

1. ___ Extraverted, enthusiastic.
2. ___ Critical, quarrelsome.
3. ___ Dependable, self-disciplined.
4. ___ Anxious, easily upset.
5. ___ Open to new experiences, complex.
6. ___ Reserved, quiet.
7. ___ Sympathetic, warm.
8. ___ Disorganized, careless.
9. ___ Calm, emotionally stable.
10. ___ Conventional, uncreative.

Appendix 2

(Questionnaire page 5)

Thank you very much for your participation.

If you have any questions concerning the purpose of this experiment, or wish to have any aspect of it explained, please do not hesitate to contact me at:

If you have experienced distress of any sort as a result of participating in this experiment, professional counseling will be made available to you.