

How reliable is eyewitness testimony?



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This essay attempts to reach a conclusion regarding eyewitness testimonies and the extent of its reliability. This was done by identifying factors in three different processes stages. The acquisition stage is the period where the witness experiences the event. The retention stage is the period between the time the event ends and the time the witness are asked for a recount or questioned about the event. The retrieval stage is the period where the witness is providing information from their recall.

During the acquisition stage, research regarding exposure time, estimation of factors concerning the event (for example, time), violence of the event, weapon focus and witness' stress was analysed. During the retention stage, research regarding post-event information, introduction of conflicting information and introduction of misleading information was analysed. During the retrieval stage, research regarding method of questioning, leading questions and a case study of an actual event was analysed.

Experiments and case studies regarding these factors were then evaluated to weigh the impact that it had on eyewitness testimony. In conclusion, it was found that experiments regarding eyewitness testimony hold little evidence to support its reliability but there are also some findings that dispute this. Thus, it was concluded that it is reliable only to a small extent though it can be highly accurate under certain conditions. Applications of this conclusion includes jurors being more aware of the factors regarding eyewitness testimony and taking into account when deciding on a verdict especially if the main evidence is based solely on eyewitness recounts.

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Introduction

Eyewitness testimony is usually a verbal account given by an individual who has experienced an event, typically of a crime. Eyewitness testimony relies heavily on the capability of the individual's to accurately recount the event. In a trial, the jury is most often persuaded due to the statement(s) of the witnesses. Also, in cases where little material evidence can be collected, eyewitnesses are the focus for reaching a verdict. It has been argued that because testimonies are largely based on fallible memory which can be influenced by a variety of factors, it should not be depended upon. The contention of this essay is to identify and evaluate the extent of accuracy of this claim by identifying and evaluating factors that affect memory and by reviewing experiments and case studies to reach a conclusion on this matter. Memory and thus eye-witness reliability has become an issue of importance due to the high percentage of errors in identifying and prosecuting accused individuals. Thus, the reliability of eyewitness testimonies and impact on trials should be reviewed.

Memory is defined as a “ kind of repository in which facts (information) may be retained over some period of time” (Loftus, 1979). According to the Atkinson and Shiffrin model of memory storage (1971), memory is made up of three different types of information stores, each with different duration, capacity and function. The first is Sensory Memory. This type of store lasts for the split second when individuals collect information from their sensory systems and preserves information in its original sensory form. The sense organs are limited in their ability to store information about the world in an unprocessed way for more than a second. Thus, information is filtered

through or selected by attention for further memory processing into the next type of memory store. This process of experiencing and filtering information is called acquisition. The next memory store is Short-term memory allows individuals to retain information long enough to be used and lasts approximately between 15 to 30 seconds. Miller (1956, cited in Weiten, 2005) proposed that Short-term Memory had a capacity of about 7 chunks of information. If certain actions are carried out, the information will be transferred to the last type of memory store, Long-term Memory. Long-term Memory provides retention of information which can last between minutes to a lifetime and has a limitless capacity. The process of information deposited in the short-term and long-term memory store is called retention.

Information is constantly being transferred between these stores. When witnesses are asked to give recount of what they witnessed, information is taken from the long-term memory store and this process is called retrieval.

Events during these three processes may affect the quality of the eyewitness testimony. During the acquisition process information may not have been perceived in the first place, information may be forgotten or interfered during the retention process or information may be inaccessible during questioning or during the retrieval process.

Analysis of Factors that may affect Eye-witness Testimony during the Acquisition Process

During the acquisition process, there are a number of factors that can affect an eyewitness' report of an event such as exposure time or stress. This can be divided into event factors and witness factors. This section of the essay

will evaluate the effect of these factors on the reliability of eyewitness testimony.

Exposure time to the event or object of focus is an event factor. Laughery et al (1971, cited in Loftus, 1979) tested subjects on their recall based on the exposure time to a picture, showed one at a time of different positions of a human face. Two Caucasian male target faces were used, one with fair-colored hair and complexion with glasses and another with a darker-colored hair and complexion without glasses. The independent variable is the time the subjects viewed the pictures, which ranged from ten seconds to thirty-two seconds. The subjects were then asked, approximately eight minutes after exposure to identify the target within a series of 150 slides of human faces. The dependent variable is the accuracy of the subjects' recall. Fifty-eight percent of the subjects who viewed the pictures for thirty-two seconds correctly identified the target but only forty-seven percent of the subjects who viewed the pictures for ten seconds correctly identified the target. This suggests that the more time a witness has to view the target, the more accurate their recall will be. This research is significant as it is very scientific and precisely tested a specific variable that affects memory and recall. Although this is so, it was also conducted in an artificial environment and thus, has low ecological validity. The research may also contain cultural and gender bias as it only tested for Caucasian males as the target. Thus, its application to targets of different cultures or gender is questionable.

Estimating factors such as time, speed or distance is often asked of eyewitnesses. This involves perceiving the event and accurately inferring information from it. Marshall's (1966, cited in Loftus, 1979) experiment <https://assignbuster.com/how-reliable-is-eyewitness-testimony/>

tested subjects' estimation of time. Four hundred and ninety-one subjects watched a forty-two second film and a week after they had given their written and oral reports of the event, they were questioned as to the duration of the event. On average, subjects gave an estimate of about ninety seconds. The results show that witnesses can inaccurately estimate certain factors of an event. Although the results are significant, the study was conducted in a controlled environment which gives it little ecological validity. To further assess the accuracy of this study, an additional study that can be considered is Buckhout et al. (1975, cited in Loftus, 1979)'s study on the effects of eyewitness testimony in a real situation by staging an attack where a student attacked a professor in front of 141 witnesses. The attack lasted for thirty-four seconds but when interviewed later on, the average estimate of the duration of the event was eighty-one seconds, almost twice the actual time. This study supports Marshall's study which shows that there is a tendency for witnesses to overestimate the duration in an event. This is significant in most cases, especially for cases of self-defense where the time between the attack and the retaliation is very significant in the categorization of the action.

Another event factor is the violence of the event. A research done by Clifford and Scott (1978, cited in Loftus, 1979) investigated the ability of eyewitnesses to perceive violent and non-violent events. Forty-eight subjects with equal number of men and women watched either one of two tapes. In the non-violent version, the characters were involved in a verbal exchange and weak restraining movements. In the violent version, one of the characters physically assaults another character. In an effort to be even, the

start and end of the tapes were manipulated to be identical. It was found that regardless of gender, the level of recall is significantly lower for those who viewed the more violent tape. It is inferred that this is due to the greater amount of stress that is produced in response to the violent event. This shows that eyewitness testimony of a violent event should be considered with the possibility of a higher rate of inaccuracy. Though the results are significant due to the high reliability of the scientific method used, it also lacks ecological validity as it was conducted in an artificial environment where witnesses do not actually experience the event.

An event factor that is linked to the witness factor, stress, is weapon focus. Easterbrook (1959) found that under high stress, individuals tend to concentrate more on a few features of their environment and less attention to other features. Weapon focus is where a crime victim is faced with an assailant who is brandishing a weapon. This rises the stress level of the crime victim and thus, they will only concentrate on a few features, mainly the weapon and will have trouble recollecting other factors such as the assailant's features. Loftus et al (1987) tested this with an experiment where thirty-six students were showed a series of slides which showed one of two scenarios at a fast food restaurant. Half the subjects saw a customer pointing a gun at the cashier while the other half, the control group saw a customer handing the cashier a check. A part of the experiment tested the memory of the students based on a series of seven questions on the customer. It was found that the level of accuracy of the weapon group was fifty-six percent while the level of accuracy for the control group was sixty-seven percent. As the results show that the accuracy level of the weapon

group is lower than the control group, this is highly significant in showing that eye-witnesses acquisition process might be seriously hampered by the presence of a weapon. The results of the experiment are highly valid as it was conducted in a controlled environment which allowed a direct 'cause and effect' outcome. While this is so, the participants did not experience the event and thus their response may be different to an actual witness which means that the experiment lacks ecological validity.

During an event, stress is a witness factor that should be taken into account. This refers to the level of stress or fear that a witness experiences which may influence their perception during the acquisition process of the event. A simulated case study done by Berkun (1962, cited in Loftus, 1979) placed army recruits in a stressful situation. They were isolated with the exception of a telephone link. Then, they were told that they were in danger to induce anxiety and were required to repair a broken radio by following a series of complicated instructions. It was found that the high level of anxiety impaired performance of the subjects. As this case study was conducted during a period of different ethical standards than today, there are ethical implications to be considered. Nevertheless, the results of this case study significantly support the Yerkes-Dodson law (1908, cited in Green) which states that emotional arousal facilitates learning and performance up to a point after which there is a decrement. This can be applied to eyewitnesses who experience stress. Their senses may be stimulated but after a point, their acquisition process will be negatively affected. Although this is so, this case study has only looked at male soldiers, thus when applied to the general population, it lacks ecological validity.

Analysis of Factors that may affect Eye-witness Testimony during the Retention Process

Eye-witnesses are being tested on their retention of information from their Long-term Memory. Because retained information and thus, memory is being transferred between memory stores, it is possible that it can be influenced, enhanced or even distorted during or in between transfers. This section of the essay will focus on the numerous researches that have been carried out to investigate the accuracy of this or the extent of the influence that may occur.

After an event occurs, sometimes witnesses discuss what they saw with each other and the information that is exchanged can result in an enhancement of memory in the form of modification or addition. An experiment was conducted by Loftus (1975) on one hundred and fifty participants. They were showed a film of a car crash where a car failed to stop at a stop sign and turned right to enter traffic, causing a five-car collision. After the film which lasted for less than a minute, participants were asked a series of ten questions. Half of the participants were asked about the stop sign in the first question while the other half were asked about the right turn. All other questions were the same. The independent variable here is the first question and the dependant variable is the last question which asked participants if they remembered seeing a stop sign. Loftus found that there was a higher percentage of participants who recalled seeing a stop sign if the first question related to a stop sign than the control group, fifty-three percent and thirty-five percent respectively. This shows that by mentioning an object, there is a higher chance of it being recalled. The results are highly significant

as it was calculated using precise results with a specific variable tested. It can be argued that the experiment lacks ecological validity as it was conducted in an artificial environment but this allowed a specific variable to be tested which would have been impossible with a case study. As demonstrated by this experiment, eye-witnesses' memory may be influenced by post-event information that they receive and thus, the more information that the witness is exposed to after the event, the higher the chance that their memory might be compromised.

A modification to the previous variable is the question as to what happens when a witness learns new information which is different from what they experienced. Loftus (1975) conducted an experiment where forty participants were shown a three-minute video which involved a group of eight demonstrators noisily interrupting a lecture. The participants then had to answer a series of twenty questions. All the questions for the participants were identical except for one. Half of the participants were asked, " Was the leader of the twelve demonstrators who entered the classroom a male?" and the other half were asked, " Was the leader of the four demonstrators who entered the classroom a male?" All questions had to be answered with a yes or no. A week later, participants had to answer another set of questions. The critical question was " How many demonstrators did you see enter the classroom?" It was found that participants who previously answered the question with the word ' twelve' reported an average of 8. 9 demonstrators while the other half reported an average of 6. 4 demonstrators. It can be argued that this experiment lacks ecological validity as it was conducted in an artificial environment and that participants only viewed the event and did

not actually witness it. The results may not be fully applicable to the general population. Although this is so, the controlled environment showed a direct cause and effect of a specific variable. The results of this experiment can be applied to eye-witness testimony where witnesses may be misled in their testimony as their memory might be compromised by the introduction of conflicting information.

Similar to the experiment above is an experiment conducted by Loftus and Zanni (1975, cited in Hill, 1998) which was a modification of the original Loftus and Palmer research. The aim of the experiment was to investigate the effect of adding post event information on memory. Participants were shown a film of a car accident after which they had to answer a series of questions. Half of the participants were required to answer, “ Did you see the broken headlight” which implied that there was a broken headlight while the other half were asked, “ Did you see a broken headlight” which only required participants to recall if it was there. It was found that half of the participants, who were asked using the word “ the”, incorrectly reported seeing a broken headlight. As most of the other variables were controlled in the experiment, and only a specific variable was changed, the results signify that memory can be modified by post event information. It can be argued that the participants did not experience the incident and thus the experiment lacks ecological validity when applied to actual witnesses but as a specific variable was examined, it can be concluded that the cause and effect was to a large extent connected. This experiment shows that eyewitnesses may be influenced by post event information which may negatively affect their account.

McCloskey and Zaragaza (1985) also conducted experiments concerning the effect of misleading post event information on participants. After watching a series of slides depicting an event, participants received a narrative of the event. Participants in the mislead condition will receive a narration with receive the narrative with misleading information about a detail of the event, a hammer was referred to as a screwdriver instead while the control group weren't provided details of the specific event. Participants then had to answer a series of questions about the event. The critical question concerning the tool had the original item as an option (hammer) and a new item (wrench). It was found that accuracy for the control group was seventy-five percent and seventy-two percent for the mislead condition group. The fact that there was little difference between the two groups points to the idea that misleading post event information does not distort memory of an event. This experiment supports the validity of eyewitness testimony and due to the controlled setting; the results are highly valid though it lacks ecological validity.

Analysis of Factors that may affect Eye-witness Testimony during the Retrieval Process

Most evidence from eyewitnesses are a result of their accounts of the event. This involves the retrieval process of information from their long term memory store. This section of the essay aims to analyse and evaluate research conducted in relation to the techniques of retrieving information from eyewitnesses such as question wording or method of questioning. This is to evaluate the extent of influence of such techniques on the reliability of eyewitness accounts and in relation, memory.

The method of questioning during the retrieval process plays an important role in the accuracy of eye-witness testimony as investigated by Lipton (1977, cited in Wells, 1978). Lipton conducted an experiment where participants watched a film of a murder in a courtroom setting. He found that unstructured testimony which allowed free recall resulted in ninety-one percent accuracy. This is a significant value as compared to other types of questioning such as open ended questions with eighty-three percent accuracy, leading questions with seventy-two percent accuracy and multiple choice questions with fifty-six percent accuracy. These results show that the type of questioning that the witness is subjected to affects the accuracy of their recount. When applied to trial testimonies, jurors should take into account the type of questioning to predict or get an idea of the level of accuracy of the testimony. Though conclusive to a certain extent, the experiment lacks ecological validity as the participants did not actually experience the event, merely perceive it but as it is a controlled environment, the reliability of the cause and effect factors is high.

Loftus and Palmer (1974 cited in Hill, 1998) carried out an experiment to investigate the effect of leading questions on the accuracy of participants in recalling a car crash. Forty-five participants were separated into seven groups and each group watched a video of traffic accidents. The videos lasted from five to thirty seconds. After watching the video, participants had to give an account of what they had just seen. The independent variable is the question “ About how fast were the cars going when they hit each other?”. The word ‘ hit’ is replaced with the words ‘ smashed’, ‘ contacted’, ‘ bumped’ and ‘ collided’ for different groups. The participants answer as to

the estimate of the cars' speed is the dependant variable. Loftus and Palmer found that the mean estimate of speed for more aggressive words such as 'smashed' is higher than less aggressive words such as 'contacted'. The results are highly significant, $p < 0.005$ according to analysis by variance of the data. This indicates that there is an influence of the wording used on the speed estimates. This experiment supports the idea that eye-witness testimony can indeed be flawed or manipulated by recounts under questioning such as an account of an incident from an eye-witness by a police officer. However, criticism of this experiment is directed at its ecological validity. As the experiment was conducted in a controlled laboratory environment and the car crash was only viewed, not experienced, the application of the results of the experiment is questionable when applied to real-life situations.

Contending the results of this experiment is Yuille and Cutshall's (1986) case study of a real life event. 13 participants were interviewed using Loftus and Palmer's (1974 cited in Hill, 1998) technique in their recall four to five months after witnessing an attempted robbery in daylight where one individual was killed and another, seriously wounded. It was found that there was a very high level of similarity between the accounts given by the witnesses, the accounts did not alter in response to leading questions and that the witnesses were able to recall the event in detail. Additionally, accounts of those who were more distressed had a higher accuracy level. These results are different to Loftus and Palmer (1974 cited in Hill, 1998). The eye witnesses did not alter their accounts greatly in response to leading questions. As this is a case study, it holds high ecological validity unlike

laboratory experiments. Although this may be true, Yuille and Cutshall's case study was of an event that was relatively traumatic event and was viewed in ideal conditions. Most incidents do not mirror this setting. Also, it was an investigation of only one case study. Hence, the application of these findings is debatable when applied to general eye witness testimonies.

Conclusion

This essay evaluated the extent of accuracy of the claim that eyewitness testimony should not be depended upon. This was done by focusing on the different factors that can affect human memory, and in relation, eyewitness testimony as it is fundamentally based on memory. Experiments and case studies related to factors in three different memory stages were identified and evaluated.

Research concerning the acquisition process such as exposure time, estimation of factors concerning the event, for example, time, violence of the event, weapon focus and witness' stress level during the event was analysed. Results point to a correlation of high levels of inaccuracy when more traumatic factors are included in the event. This is also reflected in research concerning the retention process and the retrieval process although there is some evidence that supports the reliability of eyewitness testimony. Overall analysis criticised the low ecological validity of controlled experiments but also supported the high level of validity that comes with it as it essentially provides a cause and effect relationship between specific variables tested. Case studies were found to be very specific with regards to certain factors, which leads to a debate about their general application. Since experiments are only replications of real-life events, it can't be fully

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taken as the actual process. This may have some influence on the results obtained as it can be argued that the participants are not really experiencing the event, thus essential factors like, atmosphere, or even interest in the event may be compromised. In this manner, results of case studies hold a higher level of reliability.

As indicated by the numerous researches on different factors during the process of collecting, processing and retrieving information from memory, eye witness testimony is reliable only to a small extent. Under such fallibility, it can be questioned if eyewitness testimony should be relied on at all.

Though eyewitness testimony has been proved accurate in a number of researches, the amount of investigations concluding on the fact that it is highly imperfect far outweighs it. Though a large number of researches do not support the reliability of eyewitness testimony, there is also evidence to support it like Yuille and Cutshall's (1986) case study. This suggests that although eyewitness testimony can be unreliable, under certain conditions, it is highly accurate.

Implications for application of the analysis in this essay could include jurors being more wary of eyewitness testimony and the conditions relating to it when deciding upon a verdict. Further research could include more case studies to increase the ecological validity of the theories produced by experiments analysed in this essay.

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