

To what extent do the interrogation styles from investigators contribute to the distortion and the re-installation of memory for eyewitnesses?

A Cognitive Psychology Study

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Introduction

This investigation will examine the research question, to what extent do the interrogation styles from investigators contribute to the distortion and the re-installation of memory for eyewitnesses? This investigation is significant because law enforcement around the world heavily relies on the accuracy of memory in order to determine specific details of a crime. According to Howe and Knott, “the capability of witnesses to accurately recall events from the past and provide accurate testimonies has been debated for the past 100 years” (Howe and Knott, 2015). According to the U.S. National Library of Medicine National Institutes of Health, “findings from basic psychological research and neuroscience studies indicate that memory is a reconstructive process that is susceptible to distortion” (Lacy and Stark, 2013). This shows how much memory is susceptible to distortion. In the courtroom the smallest amount of influence on distortion can have severe consequences. Because of the recent debates on the accuracy of memory, law enforcement officers have looked at their own interrogation strategies in order to decide whether or not they had any influence on eyewitnesses. Different styles of interrogation and stereotyping both witnesses and suspects has an influence on the reconstructive process, therefore, having an influence on how criminal cases are perceived by investigators. This investigation will specifically look at the Loftus and Palmer case study that has been conducted and how it relates to the extent of how interrogation styles alter memory and how this relates to the criminal justice system today.

A colossal amount of crimes occurs around the world every single day. According to the U.S. Department of Justice Bureau of Investigation, “one murder occurs every 35.6 seconds, one forcible rape occurs every 6.2 minutes, one robbery occurs every 1.4 minutes, and one aggravated assault occurs every 40.5 seconds” (U.S. Department of Justice Federal Bureau of

Investigation, 2010). With the high amount of crimes occurring, law enforcement has acquired the responsibility to use any information they can in order to determine what suspect is guilty of the crime. For as long as the criminal justice system has been in place, witness confessions have been ratified as the gold standard of the criminal justice system (Beil, 2011). Eyewitness testimonies are the key player in roughly 75% of cases where people are wrongfully convicted (Lacy and Stark, 2013). Unfortunately, the sole reliance on memory is trusted too often. Interviewing techniques have a factor in how accurately witnesses remember what happened. If interviewers have knowledge on how to interview have broad knowledge, then they are less likely to accurately reconstruct the memory of a witness. For example, in India most “lawyers, judges, and police officers in the Indian system do not have extensive training or experience in handling psychological evidence” (Sondhi and Gupta, 2007). By investigating the extent in which interrogation from law enforcement contributes to distorting and re-installing memory can help reverse simple fallacies within testimonies. The human memory is highly susceptible to distortion—especially after being a part of a traumatic event such as witnessing a crime. After a traumatic event it is more likely for memories to be more susceptible to distortion (Wilson, 2013).

Multi-Store Model of Memory

The multi-store model of memory is a common model of memory that assumes that there are different types of memory that are used to remember different occurrences and tasks. There are three different stages of memory that happen: sensory memory store, short-term memory store, and long-term memory store (Atkinson and Shiffrin, 1968). This model suggests that memory is passive and that there are separate cognitive methods by which it is used. This means

that there needs to be a separate processor to insert and retrieve memories (Atkinson and Shiffrin, 1968). The multi-store model is also frequently referred to as the Atkinson-Shiffrin model.

Memory After a Traumatic Event

The prefrontal cortex is the part of the brain that is responsible for rational thought process and inhibiting impulses (Hopper and Lisak, 2014). When under a high amount of stress such as witnessing a crime, the prefrontal cortex is impaired by a surge of stress chemicals known as cortisol (Hopper and Lisak, 2014). Another reason as to why the prefrontal cortex may be impaired is when someone is suddenly confronted by an emergency that demands clear thinking. Witnesses often feel this as they are trying to think clearly when witnessing a crime and are unable to base upon the impairment of their prefrontal cortex (Hopper and Lisak, 2015).

Usually during a traumatic experience witnesses experience fear. Fear is usually associated with the part of the brain called the amygdala. The witness wouldn't want to see the crime because they are scared (Hopper and Lisak). Fear impairs the amygdala's ability to remember time sequencing information which can help distort memories as time frame can be a crucial aspect in making sure what the witness remembered was accurate.

Fear also can alter the section of the brain called the hippocampus. This region of the brain helps encode experiences into short-term memory and can store the experiences as long-term memories, but the high levels of emotion could alter the ability of the hippocampus to "encode and store contextual information" (Hopper and Lisak, 2015). Contextual information might include the specific details of what significant details of the situation such as, what the suspect looked like, what speed the car was going when it crashed, what type of car the thief drove off in, and many more details such as this.

Significance and Aim of Loftus and Palmer's Case Study

A large amount of studies from psychologists have proved that participants could be led to testify suggested events that were never witnessed (Sondhi and Gupta, 2007). The aim of Loftus and Palmer's study was to "test their hypothesis that the language used in an eyewitness testimony can alter memory" (McLeod, 2010). Research indicated that witnesses could be led to report suggested details of events that they never even witnessed based off the language being used during the interrogation and questioning process (Sondhi and Gupta, 2007). Elizabeth Loftus and John Palmer have conducted many different studies to evaluate the extent in which law enforcement and interrogators' questioning strategies contribute to distortion and re-installing of memory for witnesses. They conducted the series of studies to prove how "memory does not work like a tape recorder" (Wilson, 2013). Loftus and Palmer's aim of their studies was to prove that police officers' questions may have something to do with the distortion and fallacies within witnesses' memory.

Loftus and Palmer Case Study About Eyewitness Testimonies

Loftus and Palmer tested how the phrasing of words affected testimonies of an eyewitness when witnessing a car crash. The participants of the study consisted of forty-five American students. The experiment was a laboratory experiment as all of the variables were controlled by the leaders of the study. The study consisted of five groups of nine students, and the leaders of the study showed them seven different clips of car crashes which all came from various driver education videos. After the participants viewed the videos, Loftus and Palmer asked the all of the participants a series of various questions that related to the car crash videos. The participants were unable to have an accurate estimate on the vehicle speeds, due to the wording of the questions that they asked. Each speed question was asking about how fast the

vehicles were travelling when they hit each other. The interrogators changed the word “hit” for each group and replaced it with different verbs such as “smashed”, “collided”, “bumped”, or “hit”. The different choice of the verbs resulted in different estimations of the speed of the vehicles when they contacted each other (McLeod, 2010).

The experiment was testing the wording of the questions that were asked and how they were related with the speed reported by the participants. The level of speed increased as the action verb that was used was considered to be more extreme. When the word “contacted” was used the participants said that the speed of the car was only 31.8 miles per hour, but when a more extreme word was used—such as smashed—the participants said that the speed of the car was going 40.8 miles per hour. The qualitative data that was generated showed how the different wording of the questions changed how the participants perceived the speed in which the cars were going when they contacted each other (McLeod, 2010). The verb that was used during the interrogation was shown to effect how the participant thought the speed of the car was going. If the verb that was used was more profound it was shown to make the participants think that the car was going faster. If the verb used was gentler it was shown to make the participants think that the car was going at a slower speed. The use of the stronger verbs created a more violent recollection of the video clips (Loftus and Palmer, 1974).

Values of Loftus and Palmer’s Case Study

The strengths of Loftus and Palmer’s case study was that it possessed some ecological validity as cases were overturned because witnesses have remembered details of the crime that they witnessed that was outside of their original confession. The study also proved that word choice impacted the participants memories. This displays itself in real life because the way in

which interrogators ask questions can influence how extreme the witness thought the crime scene was.

Another value of Loftus and Palmer's case study was that it has significance to how crimes are interviewed today. Loftus and Palmer's study helped increase awareness of how questions are asked during interviews. The awareness of the words that were chosen for interviews is positive because it helps create raw testimonies instead of testimonies that were influenced by people who are looking onto the crime compared to people who witnessed or experienced a crime or traumatic event (Fisher and Geiselman, 1992).

Limitations of Loftus and Palmer's Case Study

The main limitation of the study was that it lacked ecological validity. The participants only watched a video of the car crash instead of experiencing it. The video clip did not have the same level of emotional impact as witnessing the car crash in real-life. Participants were less likely to feel the trauma of the car crash, thus altering the accuracy of the experiments' results and application to the real world. At the same time, Loftus and Palmer's study does have some ecological validity as many cases have been overturned because of memories returning to witnesses.

Another limitation of the study was that since the participants were not actually experiencing the trauma that was occurring in the video as they were only watching the video; therefore, they didn't have as much emotional strife as they would've if they were actually eyewitnesses of a crash. This study was conducted in a laboratory environment which allows the conductors of the study to control the aspects of the environment and experience of the

participant. Since the conductors of the experiment were allowed to control the variables, it decreases the significance of the study (McLeod, 2010).

Another limitation of the study was that the participants only consisted of students. This was not a good representation of the general population as they are not the only people who witness traumatic events (McLeod, 2010). Also, the use of students could have had an effect on their testimonies because the video clips that they were watching was about car crashes and because of the students ages, they might have been less experienced drivers than older adults (McLeod, 2010).

Also, the participants of the study were only asked about the speed of the cars. They were not asked other questions about the traumatic event of the car crash. The interrogators asked about the speed in which the cars were going at when they contacted each other. They could have been asked other questions such as questions about what color the cars were in the video or what happened before the car crash. If Loftus and Palmer would have asked these questions, participants would have used different parts of the brain as it would be accessing different information.

Reconstructive Memories

The results of the study showed how the wording of the questions created a “reconstructed memory”. A reconstructed memory is when “information from an event merges with information after an event into a new memory” (Wallace, 2015). The video clips and the leading questions worked together in providing a new memory, replacing the memory with only the video clips. If the participants were asked to tell the interviewers what they saw in the video clips instead of “what speed were the cars going at when they collided, crashed, etc,” then their

answer may have been completely different (Loftus and Palmer, 1974). Whenever someone is asked a question during an interrogation or interview, their memories could have the ability to change due to the wording of the questions that they have been asked.

Interrogation Styles and its Influence in Creating Reconstructive Memories

In Loftus and Palmer's study, it was shown how the words used during an interrogation help influence what was remembered about a traumatic event such as witnessing a crime. Because of Loftus and Palmer's research, interrogators have looked into better ways in which to interrogate witnesses, victims, and suspects in order to improve accuracy within a case. The idea of reconstructive memories is that new information is replaced by old information. So, when an interrogator is questioning a witness with bias, they are more prone to replace the witness's memories with new memories (Wallace, 2015).

Real World Applications of Reconstructive Memories

It is not infrequent for cases to be brought up decades after the crime because a witness remembers something about the crime that they did not remember during their testimonies. In 1990, the cognitive psychologist, Loftus, took a call from a lawyer who was defending a man whose name was George Franklin. George Franklin's daughter had accused him of murdering her best friend after recovering memories of the crime during therapy. Even though the claim was solely based off of a repressed memory, George Franklin still spent 5 years in jail before the case was overturned. Because of the false repressed memory, George Franklin spent unwarranted time in jail.

Interviewing Techniques

Even though eyewitness information is highly relied on during a criminal case, investigators get little instruction on how to conduct an effective interview of the witnesses (Fisher and Geiselman, 1992). Even with this known information, “more than half of the police departments polled reported that they had no formal training whatsoever for newly appointed investigators” (Fisher and Geiselman, 1992). With little to no training on how to conduct a consistent interview, the likelihood of forming reconstructive memories would occur more often. The memory of eye-witnesses can be enhanced by appropriate interviewing techniques. An interviewing technique can influence the amount of information that would be recalled by an eyewitness (Fisher and Geiselman, 1992).

Testimonies should begin with an open-ended question so that the witness can recall as much of the crime scene as possible. This technique also helps avoid any bias from the interrogator (Lacy and Stark, 2013). Having witnesses report their own version of the crime scene “allows for a more detailed and more accurate report” (Lacy and Stark, 2013). Indefinite articles should be used over definite articles to avoid a reconstructed memory (Lacy and Stark, 2013). This allows for the testimony to have less reliance upon what the interrogator is suggesting. Since the interrogator seems to be in authority to the witness, the witness is more likely to create reconstructive memories (Lacy and Stark, 2015).

Cognitive Interviewing

Just like in Loftus and Palmer’s study, interviewers and law enforcement figures have an influence in the accuracy of eyewitness testimonies. The main goal of cognitive interviewing is to construct a non-biased interview as possible. This is done by conducting interviews differently based on the interviewee’s role in the crime. For example, if the interview was conducted with a witness who directly saw the crime take place, they interviewer should not be accusatory in their

questions and make their questions as open ended as possible (Hoffman, 2005). If the questions are too obscure it can lead to a re-installed memory which would could determine whether or not the guilty perpetrator gets punished or not (Hoffman, 2005). Another strategy in conducting a cognitive interview is making the witness as comfortable as they possibly could be. If they are feeling fatigued it may be helpful to allow them to rest before further questioning. Also, if the witness is in need of medical attention it would be important to get them medical attention before starting the interview (Hoffman, 2005).

Confirmation Bias

A prominent finding from police interviewing is that officers commonly assume that an eye-witness or suspect is guilty, even before interviewing them (Hill, McGeorge, and Memon, 2008). Confirmation bias is when a people tend to interpret new evidence as confirmation on their own theories and beliefs (Heshmat, 2015). Confirmation bias helps lead to more ‘the seeking or interpretation of evidence in ways that are common to existing beliefs, or expectations’ (Hill, McGeorge, and Memon, 2008). Because “law enforcement, as well as citizens are susceptible to biases, heuristics, schema, and emotion that can interfere with information processing and decision making” it effects how people interrogate witnesses (Wallace, 2015). The bias that they have contributes to the way in which they interview witnesses. It is a phenomenon in human nature that causes people to selectively seek information that is consistent with prior beliefs and matches up with expected outcomes (Wallace, 2015). This leads to people wanting to answer their own beliefs with evidence and proof. Confirmation bias is less likely to occur with more experienced and trained law enforcement officers over time (Wallace, 2015). It is common that interviewers are not aware of their own bias when

interviewing a witness and choosing an interviewing technique, because it could be a blind spot in which they are unaware of it happening (Wallace, 2015).

Example of Confirmation Bias

In the Netflix documentary series “Making a Murderer” follows the story of Steven Avery and his nephew, Brendan Dassey and how they were wrongfully convicted of the rape and murder of Teresa Halback (Findley, 2016). Avery and Dassey were later freed due to DNA evidence that proved that they were not guilty. Avery and Dassey did not have a good reputation in the town that they grew up in. This bad reputation ultimately led them to a false conviction and then to prison. The Manitowoc County Sheriff officers coerced a confession from Dassey by the way that they phrased their interrogation (McGreal, 2018). Dassey was a juvenile at the time and he had an IQ between 60 and 69 at the time of the interrogation. He was tricked into giving a false testimony by the Manitowoc officers (Garrett, 2018). The bias that the Manitowoc County Sheriff officers had a negative bias towards against Avery and Dassey, which had an impact on whom the officers sent to prison. As a result of negative bias, two people who were not guilty were imprisoned and punished (McGreal, 2018).

Conclusion

The wording of questions asked during interrogations and testimonies re-construct memory. Because of studies like Loftus and Palmer, law enforcement has been more careful when wording questions directed at witnesses. Being aware of how susceptible and prone memory is to be reconstructed has helped law enforcement construct better articulated questions in order to avoid false testimonies and false charges against suspects. Unfortunately, reconstructive memories cannot be entirely avoided as other factors besides interrogation may

apply such as the emotional state of the witness or the amount of time that has elapsed since the crime scene occurred (Shaw, 2016).

This being said, law enforcement and interrogators could improve their interrogation process in order to make testimonies more reliable and as free of reconstructive memories as possible. By altering their interview styles to be more open-ended and not use confirmation bias, they could help increase the accuracy of times and decrease the amount of cases that would be over turned. In recent years, law enforcement has found different ways to base their case off of and instead of only relying cases off of memory. For example, Chicago has recently installed 30,000 cameras to help solve the high levels of crime within the city. Advanced surveillance of public facilities is far more accurate than interviewing eyewitnesses to determine who the perpetrator was. Installing these cameras has helped solve some of the crimes without having to only rely on memory (Williams, 2018).

In conclusion, the interrogation styles that investigators use have a huge impact on the distortion and the re-installation of memory. By looking at the Loftus and Palmer case study it is evident that the word choice that law enforcement and interviewers use when interviewing witnesses can completely change and re-install the memory of witnesses. This results in a less accurate portrayal of what the eyewitness originally saw.

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