

# Canadian Police Officers' Knowledge of the Fallibility of Eyewitness Testimony

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## Abstract

*A questionnaire concerning the science behind the fallibility of eyewitness testimony was sent out to municipal police forces across Canada. 168 police officers completed the survey. The results indicate that those police officers who completed the survey did not have a firm understanding of the science pertaining to eyewitness fallibility. The results are discussed in terms of the impact this lack of knowledge may have on a police investigation and the ultimate outcome of a case. Recommendations are made for steps that could be taken in order to rectify this shortcoming.*

**Keywords:** Eyewitness Testimony, Police Officers, Knowledge and Beliefs

## 1. Introduction

The police officer is the first responder in the judicial process. What the police officer does during the initial stages of an investigation can have major consequences for the outcome of a case. It is important, therefore, to assure that the police officer is fully equipped to handle a situation in order to achieve the appropriate outcome; the apprehension, booking and, ultimately, the sentencing of the perpetrator of the crime.

The advent of DNA evidence and its acceptance in the courts of law called for a review of the judicial process. This came about as a direct result of the number of appeals and exonerations that occurred once DNA evidence became admissible in the courtroom (Innocence Project, 2011). The sheer number of exonerations, and the fact that a large number of them were due in whole or in part to the fallibility of eyewitness testimony, spurred Janet Reno, the then United States Attorney General, to set up a commission

to investigate the problem. The commission was charged with reviewing the methods used by the police and the judiciary in both accumulating evidence and handling witnesses. Their goal was to minimise the problem of faulty eyewitness testimony. The commission made a series of recommendations, which were published in a full report that is readily accessible online. A similar report was also commissioned in Canada and was conducted by the Federal/Provincial/Territorial (FTP) Heads of Prosecutions Committee Working Group. Their full report is also readily available online. Both reports made recommendations on how to interview a witness and how to conduct both photo and live line-ups (Technical Working Group for Eyewitness Evidence, 1999 and FPT Heads of Prosecutions Committee Working Group, 2004).

Gary Wells, a prominent psychologist in the area of eyewitness memory, was asked to be a part of Janet Reno's commission. He was honoured, but surprised to have been asked. He felt there was no need for the commission in the first place because psychologists had studied the problem of the fallibility of eyewitness testimony for more than thirty years and they had already made recommendations for change (Foxall, 2000).

In response to long-standing concerns that the psychological research into eyewitness memory was not being rendered applicable to the justice system, Gary Wells categorised all the variables that can affect a person's memory for an event into either "estimator" or "system" variables (Wells, 1978).

### **1.1 Estimator Variables**

Estimator variables are those variables that occur in the perpetration of the crime. These variables are outside the direct control of the judicial process and their impact can therefore only be estimated. Such variables would include the time that the crime was committed, the age of the witness, the race of both the witness and the perpetrator and whether or not the perpetrator was wearing a disguise (Wells et al. 2006). The first officer on the scene needs to be aware of the existence of these variables and catalogue them accurately so that they may be revisited during the courtroom proceedings. It is then up to the lawyers in the case to make the judge and jury aware of these variables and how they may have impacted the reliability of the witness.

In October 2011, Troy Davis was executed for the shooting death of Mark McPhail, an off-duty police officer who had been moonlighting as a security guard. Mark attempted to intervene to protect a vagrant who was being assaulted. He was shot and later died of his wounds. Troy Davis was recognized as the gunman. At the time of his execution, he had exhausted the appeal process, but was asking for a stay of execution because new evidence had come to light. Some of the witnesses who had identified Troy as the gunman had recanted their stories saying that they had been coerced into choosing him as the gunman during their police interviews. One of the people who recanted her statement was Dorothy Ferrell (The Associated Press, 2011).

Dorothy was approximately 200 feet away from the crime and situated on the other side of a four-lane highway, which was lined with trees. The incident happened at one o'clock in the morning. All of these factors should have rung warning bells during the initial trial process and all these estimator variables should have called into question the reliability of Dorothy's initial testimony (NAACP, 2011).

### **1.2 System Variables**

System Variables are those factors that are within the direct control of the judicial process. Players in the judicial process can control the effects of these variables by altering the way in which the system functions. Examples of system variables would be interviewing techniques, the type and presentation of mug shots, the line-up procedures and the interrogation process (Wells et al. 2006).

### **1.3 Interview Techniques**

Studies in the field of psychology have consistently demonstrated that the type of questions and the way in which they are asked can have an impact on the witness's recollection of an event. In a classic study by Elizabeth Loftus and John Palmer, participants were shown a movie of two cars crashing into each other. The participants were then asked to assess the cars' rates of speed just before the accident. The question posed to all the participants was the same except for the verb used to describe the accident. The verbs used were "bumped," "smashed," "hit," "contacted" and "collided." The verb used appeared to have an effect on the estimated speed that was reported. The average speed was greatest for the word "smashed." It is important to note that a week later, when the participants were brought back to answer questions about what they had seen, those who estimated the higher speed also claimed seeing glass at the accident scene (Loftus and Palmer, 1974).

Other studies have also demonstrated the importance of using appropriate types of questions. In addition, they have demonstrated that completely false situations can be implanted in a person's memory. The technique used in these experimental studies to implant false memories is generally referred to as the "lost in the mall" procedure. In these studies, the participant is asked to recall a series of events from their childhood, which the investigator says has been supplied by a relative. All of the events are real except one, which is supplied by the researcher. In such studies about 25% of the participants recall the false memory (Bernstein et al. 2005). This memory can become such an integral part of a person's memory that those participants who were asked to remember being attacked by a dog as a child later demonstrated a reluctance to owning one (Bernstein et al. 2005). Elizabeth Loftus suggests that once the seed of a false memory is implanted, or a memory has been altered due to questioning, it is very difficult for the person to separate what is real and what is false (Loftus, 2004). This suggests that police officers have to be careful about the way in which they question a witness.

Psychologists have been attempting to find away to minimise the number of erroneous recollections during an interview while obtaining the best recollection possible. The resultant interview process is known as the "Cognitive Interview Technique" (CI). This interview technique relies on open-ended questions without interruption by the officer. It also employs memory strategies to enhance the recall of information, yet minimises erroneous detail. Studies suggest that the CI achieves better results than the standard interview technique (Wright and Lawrence, 2004).

#### **1.4 Mug Shots**

Psychologists have also demonstrated that the use of mug shots, though an important weapon in the arsenal of the police officer, should be used with caution. If a suspect, who has already been presented in a mug shot, is again presented in a line-up (either a photo or live line-up) together with other people who were not previously presented, then the witness will more likely choose the suspect because they have seen them before. In addition, if mug shots are used in the creation of a photo line-up, it is important that the suspect's picture should resemble, in composition, that of the other people in the line-up. For example, the suspect's photo should not be the only one that stands out (Fraser et al. 2011).

In 1981, Thomas Sophonow was charged with the murder of a Winnipeg native named Barbara Stoppel; he was later exonerated. Justice Cory who headed the enquiry into the Sophonow case realised that when the photo line-up had been presented to the witnesses, Thomas's picture was the only one that stood out; his photo alone had been taken outside. Moreover, he was the only one wearing a cowboy hat. During the enquiry, Justice Cory consulted Elizabeth Loftus concerning the line-up procedure used. Dr. Loftus noted that the differences in Thomas's picture flagged him, as if to say, "Here I am" (Cory, 2001).

#### **1.5 Line-ups**

Research by psychologists has also demonstrated that the best way to present a line-up is to use a sequential line-up entailing a double-blind procedure. In addition, the other people in the line-up should be known to be innocent, but chosen for their similarity to the description given of the suspect by the witness. Gary Wells and Roderick Lindsay have led the charge in the study of the best way to conduct a line-up.

The typical procedure used by police forces in the past was the simultaneous line-up. In this scenario, the line-up is presented all at once. The cognitive strategy used by the witness is to compare and contrast the people in the line-up to their memory for the perpetrator. This is known as the “relative judgment strategy”. This strategy, though promising, can be problematic when the suspect is not in the line-up, as the witness may choose the person in the line-up who most resembles their memory for the perpetrator (Wells et al. 2006). This is not a problem with the sequential technique.

The sequential technique is the one recommended by psychologists. This technique relies on presenting the members of a line-up one at a time. This technique causes the witness to resort to an “absolute judgment” strategy in which the witness compares and contrasts each member of the line-up to their memory for the suspect. This method has proven to reduce the number of false identifications in the suspect-absent line-up (Wells et al. 2006).

The line-up procedure can further benefit from the use of a double-blind procedure. The double-blind requires that both the police officer conducting the line-up and the witness should be unaware that the suspect is in the line-up. It is important in this case for the officer conducting the line-up to instruct the witness that they do not know whether or not the suspect is present. This allows the witness to reject the line-up more readily if they are not certain and also prevents them from attempting, either consciously or unconsciously, to read the officer’s body-language for any hints as to the officer’s choice. Making sure that the other people in the line-up are known to be innocent, and only chosen because of their similarity to the description given by the witness, will also give the officer a better indication as to the accuracy of the witness’s choice (Well et al. 2006).

## **1.6 Interrogation**

Once the evidence has been gathered and a witness has identified a suspect, the investigators may proceed to an interrogation of the suspect. The most common form of interrogation used in North America is one that relies on an accusatory technique. This technique first requires the officer conduct a behavioural assessment to ascertain whether or not the suspect is hiding something or being deceitful. If the officer detects deception, then they may resort to extracting a confession. In this stage of the process, deception is condoned. The concern with this technique is that it relies on the investigator’s ability to detect deception through the behavioural assessment technique. However, psychological research suggests that police officers, despite their years of experience, are no better at detecting deception than the general population (Aamondt & Custer, 2006; Vrij & Winkel, 1993 and Kassin & Gudjonsson, 2004). It has also been demonstrated that certain sectors of the population, such as people with a low IQ and children, can be coerced into giving false confessions (Gross et al., 2005).

The recommendation of the Janet Reno and FTP commissions are in fact just that - recommendations. This means that different jurisdictions and police forces can choose to adopt or to ignore the recommendations. A study conducted by Roderick Lindsey and his colleague at Queens University in Kingston, Ontario demonstrated that a number of Canadian police forces have been listening and have consequently adopted the use of a sequential, double-blind procedure (Quan, 2011). However, some of the recommendations are not being implemented as readily, which is prompting some people to suggest that they should be legislated (Somji, 2009). One of the problems could be that the players in the judicial process are not fully apprised of the available research and are therefore not taking full advantage of it. In fact, a study conducted by Safer and Wise in the United States suggests this may be the case. Safer and

Wise tested the general knowledge of judges concerning the findings of the research on both estimator and system variables. They noted that the Judges scored just above a pass at 55% (Wise & Safer, 2003; Wise & Safer, 2004).

## **2.0 Study**

This study was conducted to ascertain whether or not police officers from across Canada are aware of the information pertaining to system and estimator variables and their impact on a witness's memory for an event. The survey was based on the survey of judges conducted by Wise and Safer (2003). The survey was modified for the Canadian Police force and two additional questions pertaining to the interrogation procedure were added.

After the proposal was given ethics approval, a letter of introduction was sent out to the chiefs of the municipal police forces across Canada. The letter explained the study and invited them to distribute the URL for the questionnaire to regular members of their force. The questionnaire consisted of a demographic section, which determined rank, years of experience and gender; a knowledge-based section, which consisted of 14 questions regarding their knowledge of system and estimator variables. They were also asked three opinion-based questions regarding whether or not they believed police officers, lawyers and judges could benefit from more training in the area eyewitness fallibility, as well as three questions regarding their own training and learning experiences in the areas of conducting interviews, line-up procedures and interrogations. They were also asked to indicate their source of knowledge, if any, of the research into eyewitness fallibility: article, book, lecture, and/or course.

## **3.0 Results**

168 officers completed the survey. The average score on the 14 knowledge questions was 8.55/14 or 61.1%. A chi square analysis was conducted to determine whether or not the police officers responded significantly above or below chance on each of the knowledge questions, (see Table 1). An analysis of variance (ANOVA) was conducted to ascertain whether or not police officers with more experience performed better on the 14 knowledge questions than new members of the force. However, there appeared to be no significant differences between experience and overall knowledge scores,  $F(4,166) = .800, p > .05$ . The overall averages for each level of experience were: 1-5 years- 9.33, 6-10 years- 8.14, 11-15 years 8.72, 16-20 years- 8.00 and 21+- 8.65. When asked if more police-officer training in the area was warranted, 151 or 89.9% of the officers felt that more training would be beneficial. When asked if lawyers knew enough about the factors that could affect eyewitness accuracy, 72 or 43%, responded that lawyers did not know enough; 59 officers, or 35%, thought they did; whereas 36 officers or 22% were undecided and one officer did not respond. When asked whether judges needed more training regarding the fallibility of eyewitness testimony, the majority, 128 or 76%, agreed.

When the officers were asked what type of training they received in the areas of interviewing, conducting a line-up and performing an interrogation, the majority of respondents indicated that, when it came to both interviewing a witness and performing an interrogation, they had had formal training during the initial training process with periodic refresher courses. However, when it came to training in the use of line-ups, responses were split between having had no training and having had formal training during the initial training process followed by periodic refresher courses. Officers were also allowed to indicate if they had received any training other than the options given on the survey. The responses to this qualitative section were as varied as those in the quantitative. This seems to suggest that the police training programmes across Canada do not appear to adhere to a universal standard of training. For the overall distribution of responses to the quantitative question see table 2. When asked what type of exposure they had had to the research on the fallibility of eyewitness testimony, the majority had read an article, 64.9%

and/or attended a lecture 60.7%. However, more importantly, 19.6% of the officers claimed to have had no exposure whatsoever.

#### **4.0 Discussion**

The results of this study suggest that police officers may not be receiving enough exposure to the information supplied by recent research into the fallibility of eyewitness testimony. These results tend to mirror those found recently by Wise Safer and Maro (2011) who conducted a similar study with police officers in the United States. They concluded that the officers had a poor knowledge of the scientific literature on the fallibility of eyewitness testimony.

In 2010, the authors of the present study also conducted a similar knowledge survey on first year psychology students. This did not include the two questions on interrogation that were included in the police survey. For the purposes of comparison, without these questions, the police officers scored 61.9%; the students' scores were comparable, if not a little higher, with an average of 65.8% (Fraser et al., 2013). The important thing to note here, however, is that the police officers who filled out the survey are willing to be trained in the area. This was indicated by their response to the questions concerning whether or not police officers could use more training, where 89.9% agreed.

The police officers are our first responders and the way they begin to accumulate the evidence at any accident or potential crime scene may have a profound effect on the outcome of the case. With such a burden of responsibility, it is obvious that the officers need to become more familiar with the research regarding the potential effect they may have on a witness's memory for an event.

#### **4.1 Limitations**

It became clear from some of the responses to the open-ended questions concerning the officers' training in the use of interviews, line-ups and interrogations, that the participants may have had differing interpretations of the statement "formal training" as some appeared to have employed more liberal interpretation than others. In the future, an operational definition of "formal training" could be used in order to minimise any misinterpretation. Another limitation is the use of self-reported data from the formal training questions. Self-reported data can be unreliable at times if, for example, the participants report what they think the researchers are expecting to find, or if they tailor their responses in order to be viewed in a more positive light (Cook & Campbell, 1979; Kanfer, 1970).

#### **4.2 Future Research**

In order to understand the police training process better, future research could focus on police training facilities across Canada. The data from the present study appears to indicate that there may be a great deal of variability in training among police officers and therefore across police departments. The variability in training could well be due to differences in curricula across police training colleges in different provinces in Canada. It would therefore be helpful if future research focused on the curricula in police colleges across Canada to see just how many have specific courses dedicated to eyewitness accuracy as well as police interview, interrogation and line-up procedures.

#### **5.0 Conclusion**

The results of this study, like the one conducted by Wise Safer and Maro (2011), seem to indicate that changes need to be implemented in order to bridge the gap between psychologists' research findings on the fallibility of memory and police officers' knowledge of the same. The fact that 20% of officers within

this study stated they did not have any exposure to the research into eyewitness accuracy is concerning and needs to be addressed. The authors recommend that core courses become an integral part of the initial training program for new officers and that subsequent refresher courses be periodically offered to update officers on any new information that is discovered. We also suggest that all officers presently on the force be given the opportunity to take courses directly related to the psychological research on the fallibility of eyewitness testimony.

**Table 1.0**

*Chi Square Analysis: Questions, Answers, Percentages, and Significance.*

Statement	Answer	Result (%)
1. Whether or not a perpetrator is wearing a hat has no impact on the witness's ability to recognize the perpetrator.	When a perpetrator wears a hat or disguises it has been shown to reduce eyewitness accuracy (Patterson, & Baddeley, 1997).	73%***
2. A witness's ability to recall minor details about a crime is a bad indicator of the accuracy of the witness's identification of the perpetrator of the crime.	Previous research indicates that an eyewitness who remembers minor, peripheral details about a crime is less likely to accurately remember the perpetrator (Wells, & Leppe, 1981).	11%***
3. An eyewitness's perception and memory for an event will not be affected by his or her attitudes and expectations.	An eyewitness's attitudes, can impact the way in which she/he processes information about the event. (Lindsay, 2007).	85%***
4. A police officer who knows which member of the lineup or photo array is the suspect should not conduct the lineup or photo array.	Police officers who know which member is the suspect may knowingly or unknowingly give clues to the eyewitness that may influence the eyewitness's selection of a perpetrator (Garrioch, & Brimacombe, 2001).	76%***
5. Eyewitness testimony about an event often reflects not only what a witness actually saw but information obtained later on.	Human memories are not neatly aligned in chronological order and often times, eyewitnesses get the event confused with information they obtained later on (Loftus, 1979).	84%***
6. At trial an eyewitness's confidence is a good predictor of the accuracy of his or her statements.	Research into wrongful convictions have discovered that eyewitness confidence is not correlated with accuracy due to post-event influences on confidence (Garrioch & Brimacombe, 2001).	59%*
7. An eyewitness's confidence cannot be influenced by factors that are unrelated to identification	An eyewitness's confidence can be influenced by factors unrelated to the crime (Garrioch & Brimacombe, 2001).	74%***

accuracy.

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|---|--|--------|
| 8. The presence of a weapon can impair an eyewitness's ability to accurately identify the perpetrator's face.   | The presence of a weapon reduces the eyewitness's ability to identify the perpetrator's face as their attention tends to be focused on the weapon (Loftus, Loftus, & Messo, 1987; Kramer, Buckhout, & Eugenio, 1990).  | 88%*** |
| 9. Exposure to mug shots of a suspect increases the likelihood that the witness will later choose the suspect from a lineup.  | Previous research indicates that multiple exposures to the suspect's face causes eyewitness familiarity with that individual. Due to this familiarity, they are more likely to select this individual from a subsequent lineup. (Christiaansen, Sweeney, & Ochalek, 1983).           | 72%*** |
| 10. Witnesses are more likely to misidentify someone in a culprit-absent lineup when it is presented in a simultaneous (i.e., all members of a lineup are presented at the same time) as opposed to a sequential procedure (i.e., all members of a lineup are presented one at a time). | Sequential lineups work best by eliminating the comparison between suspects that occurs during simultaneous lineups; simultaneous lineups have been involved in many wrongful convictions in perpetrator-absent lineups (Wells, Small, Penrod, Malpass, Fulero, & Brimacombe, 1998). | 46% NS |
| 11. The rate of memory loss for an event is greatest right after an event and then levels off over time.  | An eyewitness is best able to recall the event after the crime but as time goes on their accuracy decreases then levels off. This phenomenon is entitled the "forgetting curve" (Loftus, 1979).  | 32%*** |
| 12. A person's visible reaction to questions during an interview is a strong indicator of deception.  | Police officers' ability to detect deception has been studied and the results indicate that they can detect deception no better than chance (Aamondt & Custer, 2006; Vrij & Winkel, 1993, Kassin & Gudjonsson, 2004).  | 36%*** |
| 13. Innocent suspects cannot be coerced into confessing to a crime they did not commit.   | Innocent suspects can and do confess to crimes they did not commit during interrogation procedures (Gross et al., 2005).   | 77%*** |
| 14. Only in exceptional circumstances should a defendant be convicted of a crime solely on the basis of eyewitness testimony.   | The National Institute of Justice studied many wrongful conviction cases and they found that 90% of these wrongful convictions were due to erroneous   | 42% NS |

identifications (Wells, Memon, & Penrod, 2006).

*Note.* The asterisks indicate a score, which is significantly different from chance. The number of asterisks represents different levels of significance. \*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$ ; NS = Not Significant.

**Table 2.0**

*The Percentages for Each Formal Training Question.*

Questions	Options	Percentages
1. I received my formal training in interviewing eyewitnesses:	During my initial training	19.05%
	During my initial training, as well as in periodic refresher courses.	51.79%
	During my initial training, as well as in regular refresher courses.	12.5%
	I did not receive formal training in this area.	10.71%
	No Response/Other	5.95%
2. I received my formal training in conducting lineup procedures:	During my initial training	21.43%
	During my initial training, as well as in periodic refresher courses.	30.95%
	During my initial training, as well as in regular refresher courses.	7.14%
	I did not receive formal training in this area.	33.33%
	No Response/Other	7.14%
3. I received my formal training in conducting interrogations:	During my initial training	9.52%
	During my initial training, as well as in periodic refresher courses.	45.24%
	During my initial training, as well as in regular refresher courses.	20.24%
	I did not receive formal training in this area.	14.88%
	No Response/Other	10.12%

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