

2015

## Juror misperceptions of eyewitness evidence : impact on expert testimony and credibility

Tiffany M. Anderson  
*University of Northern Iowa*

*Let us know how access to this document benefits you*

Copyright © 2015 Tiffany M. Anderson

Follow this and additional works at: <https://scholarworks.uni.edu/hpt>



Part of the [Legal Studies Commons](#), and the [Psychology Commons](#)

---

### Recommended Citation

Anderson, Tiffany M., "Juror misperceptions of eyewitness evidence : impact on expert testimony and credibility" (2015). *Honors Program Theses*. 192.

<https://scholarworks.uni.edu/hpt/192>

This Open Access Honors Program Thesis is brought to you for free and open access by the Student Work at UNI ScholarWorks. It has been accepted for inclusion in Honors Program Theses by an authorized administrator of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

**Offensive Materials Statement:** Materials located in UNI ScholarWorks come from a broad range of sources and time periods. Some of these materials may contain offensive stereotypes, ideas, visuals, or language.

Running Head: EYEWITNESS EVIDENCE AND EXPERT TESTIMONY

JUROR MISPERCEPTIONS OF EYEWITNESS EVIDENCE: IMPACT ON EXPERT  
TESTIMONY AND CREDIBILITY

A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Designation University Honors

Tiffany M. Anderson

University of Northern Iowa

May 2015

# EYEWITNESS EVIDENCE AND EXPERT TESTIMONY

This Study by: Tiffany M. Anderson

Entitled: Juror Misperceptions of Eyewitness Evidence: Impact on Expert Testimony and  
Credibility

has been approved as meeting the thesis or project requirement for the  
Designation of University Honors.

---

Date \_\_\_\_\_ Dr. Kim MacLin, Honors Thesis Advisor

---

Date \_\_\_\_\_ Dr. Jessica Moon, Director, University Honors Program

# EYEWITNESS EVIDENCE AND EXPERT TESTIMONY

## ABSTRACT

The criminal justice system generally assumes that jurors have a base knowledge and understanding of the issues surrounding memory evidence. On some occasions, however, experts are brought in to testify and explain these issues to jurors. Though jurors (along with judges and attorneys) like to believe they are knowledgeable about the variables that may affect eyewitness memory, the reality is that they have a very limited understanding. However, there is little research on what misperceptions exist among laypeople regarding eyewitness memory. This is problematic because expert testimony may be more useful if it specifically addresses common misperceptions rather than just providing jurors with textbook information. This study investigates the influence specific expert testimony has on mock jurors. It uses weapon focus and expert testimony (either standard or specific) to examine the effects on verdict and other variables such as confidence and perceptions of both the witness and expert witness in a fictitious trial. Though no significant differences in verdict were found between the conditions, other significant results shine a light on the challenges expert witnesses face. Limitations and implications of this research are discussed, along with the significance of this type of research.

# EYEWITNESS EVIDENCE AND EXPERT TESTIMONY

## ACKNOWLEDGMENTS

First and foremost, I would like to express the deepest gratitude to my thesis advisor, Dr. Kim MacLin, whose guidance has made this project possible. Her positive and down-to-earth attitude settles even the most strung-out students (myself included). Dr. MacLin's passion for social justice is evident through all areas of her life, especially academics and research; she is the individual who has singlehandedly fostered my desire to further my education and research in psychology and law.

I would also like to thank Dr. Jessica Moon who has guided my experience in the University Honors Program for the past four years. She has consistently encouraged me to pursue even the most far-fetched ambitions and made my experience at the University of Northern Iowa a unique and unforgettable one.

Lastly, I want to take this opportunity to acknowledge the other important individuals who have positively impacted my education at the University of Northern Iowa. Dr. B. Keith Crew, Dr. Nicholas Schwab, Dr. Rowena Tan, Dr. Kristin Mack, and Dr. Martie Reineke. Though some of these individuals have only known me briefly, each of them has left a lasting impression on me through their constant support of my abilities, endless encouragement to follow my dreams, and countless conversations outside of office hours.

# EYEWITNESS EVIDENCE AND EXPERT TESTIMONY

## Table of Contents

Introduction.....	1
Expert Testimony.....	2
Eyewitness Experts.....	2
Regulating Expert Testimony.....	3
How Jurors Use Expert Testimony.....	5
The Necessity of Eyewitness Experts.....	6
Eyewitness Knowledge: Experts.....	9
Eyewitness Knowledge: Jurors.....	10
Misperceptions.....	12
Method.....	14
Results.....	16
Discussion.....	17

## INTRODUCTION

Jurors, as average citizens, come into the courtroom with varied life experiences, levels of education, and personal beliefs. Unfortunately, the criminal justice system may be putting too much trust in the present knowledge of jurors when it comes to scientific evidence. In instances where jurors clearly don't know or are not expected to understand a particular area of scientific evidence (e.g., DNA testing), experts are brought in to explain and clarify the science so that the jurors may be better able to evaluate the evidence in the trial.

Though it has been speculated since the early 1900s that eyewitness memory accounts are risky to rely on, they remain an integral part of the criminal justice system. With mistaken eyewitness accounts the leading cause of false convictions in the United States (Innocence Project, nd), expert testimony on the facts about human memory is a reasonable option to turn to in order to educate jurors on the facts of memory issues and give them the tools they need to evaluate the reliability of eyewitness testimony and evidence. Despite decades of research, the general public is still accepting of eyewitness testimony, likely because they do not have the knowledge necessary to accurately evaluate the reliability of an eyewitness account. Research shows that jurors actually place more value on eyewitness testimony than on other important forms of evidence like fingerprint matches (Vallas, 2011).

The current study seeks to demonstrate the importance of having expert witnesses who testify specifically on common misperceptions about memory evidence in order to provide jurors with all the tools necessary to evaluate the degree to which they should evaluate the evidence (in other words, the technical information about the relevant memory factors at play in the case, as well as information on why or how their own beliefs might be wrong). Ideally this research will

change the way experts testify, thereby increasing juror knowledge of critical eyewitness issues and changing the way they analyze the evidence presented at trial.

### *Expert Testimony*

Expert testimony is used in the courtroom when an expert witness—an individual with specific and extensive knowledge in a specific area through education and research—is allowed to testify with the purpose of educating the jury on a subject they are not expected to have previously known about or understood (Gemberling & Cramer, 2014). There are a wide array of experts which may be used in the courtroom. Expert testimony may come from experts in DNA evidence or even expert mechanics to testify on the inner workings of a car. Within the discipline of psychology there are also a variety of experts. Clinical psychologists, for example, may testify on parental fitness or competency to stand trial. For the purpose of this research, the term expert witnesses will reference eyewitness memory experts, a specialty within social and cognitive psychology. Eyewitness memory experts are tasked with educating the judge and/or jury while following the legal process and adhering to rules sent down by the American Psychological Association (APA).

### *Eyewitness Experts*

The testimony provided by eyewitness memory experts will vary case to case based on the situation. Testimony may include a variety of topics including but not limited to: own-race bias, exposure duration, event circumstances, witness confidence, and weapon focus. Weapon focus, an issue people mistakenly believe they understand, is the situation that occurs when there is a weapon present during the crime. The weapon distracts the witness from the perpetrator(s) and greatly decreases the likelihood that the witness will later be able to provide an accurate



identification. Though witnesses are often able to provide a very detailed description of the weapon, they are not able to describe the perpetrator's face.

### *Regulating Expert Testimony*

The Frye Standard (*Frye v United States*, 1923) was one of the first decisions to come about regarding experts in the courtroom. The Frye standard permits the use of evidence only if it has achieved acceptance among scientists. Experts, therefore, are only permitted to testify based on research that has reached agreement within the scientific community. Though this guideline is in place to keep pseudo-science and biased opinions of the courtroom, it does prevent experts from discussing newer research, despite its applicability and importance (Gemberling & Cramer, 2014). The Frye Standard, however, is not the most prominent legal code employed in these situations. Since the 1993 Supreme Court ruling in *Daubert*, judges have had greater flexibility in deciding if experts will be allowed in trials. Since this ruling, judges continue to have a great degree of autonomy in these decisions. *Daubert* has since been expanded and resulted in amendments to the Federal Rules of Evidence (FRE).

Based on the FRE, since their modifications after *Daubert*, experts may be permitted at trial if the scientific evidence to be presented is believed to be relevant to the case and reliable in nature. Rules 702-706 of the FRE specifically address the purpose and qualities of expert testimony. Per Rule 702, expert testimony must be educational and specific to be allowed at trial and the opinions of the expert should help the judge and jury to understand a topic outside of common knowledge. Based on the criteria set forth in the FRE, addressing common misperceptions with the use of empirical research is supported in expert testimony. As recently as 2011, 31 states utilize a system based on *Daubert*, while 14 states use the Frye standard, and the remaining four states have created their own tests (Vallas, 2011).

The APA itself has additional guidelines for experts to follow: Specialty Guidelines for Forensic Psychology (2011). These guidelines are truly guidelines; they are not enforced regulations, yet they give professionals the tools they need to understand how they can ethically work side by side with the criminal justice system and maintain their esteem as a psychologist or research professional. These Guidelines assert that psychologists serving in the capacity of a witness should present unbiased and scientific testimony. Additionally, experts should only provide testimony on subjects in which they have extensive training and expertise. As a result experts not only maintain their credibility, but also are especially knowledgeable of common misperceptions and myths that permeate their area of expertise.

Laypeople and legal professionals alike may not fully value experts and the evidence they provide, simply because experts are often hired by one side or the other and may be thought to provide biased information. This puts the psychologists in a tricky position. It is likely that the evidence an expert has to present will favor one side or the other, especially when addressing misperceptions. That being said, experts are recommended to maintain impartiality and present an objective and exhaustive review of the literature on the subject (Gemberling & Cramer, 2014). The decision handed down in *Frye* saw expert witnesses as a “hired gun,” (Vallas, 2011) which likely contributed to the mistrust placed upon experts.

Research and discoveries in the field of eyewitness memory have been expanding rapidly over the past few decades. What we know now is very different than what we knew even so little as thirty or forty years ago. Courts have been excluding eyewitness experts for years while assuming that the testimony subverts the position of the jury. In 1983, the Arizona Supreme Court was the first state level Supreme Court in the United States to reverse a previous ruling that prohibited an eyewitness expert under the premise that this testimony was common sense to

the jurors (Berkowitz & Javaid, 2013). If research has continued to grow and judges as far back as thirty years ago began to notice the need for eyewitness experts, what is the delay? Why are judges still opposed to the admission of these scientific experts?

Rule 403 in the Federal Rules of Evidence permits the exclusion of evidence at trial for prejudice, confusion, waste of time, or other reasons. Other reasons may include misleading the jury or confusing the issues, which is something that many judges still believe expert testimony may do. According to *The Province of the Jurist (2013)* there are two main reasons why eyewitness experts may not be permitted in the courtroom. 1) Some judges believe that bringing in an eyewitness expert devalues the intelligence and undermines the common sense of the jury. 2) Other judges, however, acknowledge that juries may be oblivious to many of the factors that may influence eyewitness memory, especially those that are counterintuitive. Unfortunately, they still decline the use of experts in the courtroom because they believe that these issues can be addressed in regular court proceedings such as cross examination and the judge's instructions. In other words, they simply see it as a waste of time and money.

Matters of common sense aside, there is another camp of judges who believe jurors can be adequately informed of memory issues through regular court proceedings. Judge's instructions, while they undoubtedly have a place in the courtroom, pose the risk of confusing jurors or misleading them. These instructions also come at the end of the trial, which may have lasted days or weeks. By this point in time it is likely that the jurors have already drawn their conclusions based on the previous testimony. Additionally, these instructions may prove to be futile to a jury who is tired and restless after countless hours of testimony (*The Province of the Jurist, 2013*). Furthermore, if judges and lawyers themselves are not more knowledgeable about

eyewitness memory issues, how can they be expected to include comprehensive material and empirical data through judges' instructions, cross-examination, and closing arguments?

### *How Jurors Use Expert Testimony*

When considering previous research, it may make sense that judges and attorneys often believe that laypeople have general knowledge of the problems associated with memory evidence as it is often considered to be common sense. Houston (1985) reported that many basic principles of psychology are obvious, regarding self-evident information that most individuals know and understand.

Concurrent with Houston's research, mock jurors in a study by Martire and Kemp (2009) accurately predicted accuracy of the mock eyewitness 63.6% of the time. Participants were put into different conditions: control, incongruent expert, congruent expert, and judicial instruction. The control group received no instruction regarding eyewitness testimony. The incongruent expert group was presented with a researcher who suggested there is no relationship between witness confidence and accuracy, whereas the congruent expert told jurors that witness confidence is a strong indicator of accuracy. For the final group, the judge simply advised jurors to be cautious and consider a variety of factors from the time of the crime, including but not limited to lighting, context, and reliability. In this condition, the judge did not address the relationship between witness confidence and accuracy. Though the accuracy of the jurors was not significantly related to the condition they were in, jurors did respond consistently with the instructions they were given. That is to say, jurors who were advised that confidence is an indicator of accuracy relied heavily on witness confidence to make a decision, whereas jurors who were advised that confidence is not related to accuracy used other factors to make their decision.

*The Necessity of Eyewitness Experts*

For years psychological research has demonstrated that an eyewitness's confidence is not necessarily indicative of precision in their account of a crime or identification of a perpetrator and that confidence is quite easily the subject of artificial inflation. Nonetheless, the confidence an eyewitness exudes remains the most influential factor jurors consider when examining the validity and reliability of an eyewitness account (Berkowitz & Javaid, 2013).

Years of research on eyewitness memory have led to the irrefutable conclusion that memory is malleable and far from perfect. One would think that this is obvious, considering nearly 75% of DNA exonerations involve faulty eyewitness testimony (Innocence Project, 2014). The research in this field, along with facts from exonerations tell an interesting story about human error. In recent decades, there have been over 2,000 studies performed in the field of eyewitness memory research (Berkowitz & Javaid, 2013). As a result, it is generally accepted in the scientific community that eyewitness memory is suggestible and may be altered by a variety of factors including lineup techniques or even exposure to a picture, article, or friend.

In reality, what knowledge jurors do have of eyewitness issues is likely one dimensional. It is presumed, however, that jurors do have some relevant knowledge about factors influencing eyewitness memory, which is why experts are sometimes not allowed to testify. Eyewitness experts testifying in trials are occasionally permitted if it is believed they can increase juror sensitivity to eyewitness factors, which will help jurors better evaluate that type of evidence (Cutler, Penrod, & Dexter, 1989; Rule 702 Federal Rules of Evidence). *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993) gave judges a wide array powers in deciding if experts can testify in trials, and the Supreme Court has allowed judges to continue to use these powers based on that precedent.

In the case of *Perry v. New Hampshire*, an African American male was identified by a witness who had previously called the cops reporting suspicious activity in her parking lot. The witness identified Mr. Perry (the only African American male in the area) on the scene to police when she randomly gazed out her window and saw him standing there next to an officer. In this situation, the police did not intentionally suggest to the witness that Mr. Perry was the culprit. Regardless of the circumstances (poor lighting, lack of other potential suspects), however, he was arrested and later convicted of theft. Mr. Perry attempted to have the eyewitness's testimony withheld from the trial, but to no avail. He later filed an appeal and his case made it to the Supreme Court.

Though the court acknowledged the fallibility of eyewitness testimony as a whole, it continued to follow precedent with its decision to uphold the prior conviction. In this situation, the law states that the evidence would be inadmissible if the suggestibility had occurred on the part of law enforcement. Based on procedural due process which is used for criminal prosecutions, the result is considered valid because the process which led to it was "fair and impartial" (Berkowitz & Javaid, 2013, p. 371). Considering that the law is what it is, at least for the moment, what other points does *Perry* bring to light about the current state of eyewitness testimony in the courtroom?

In order to withhold an eyewitness's identification from a trial, the judge first determines if the identification was "impermissibly suggestive based on the totality of the circumstances" (Berkowitz & Javaid, 2013, p. 370). If it is not then the evidence is admitted. If it is found to be too suggestive, however, it may still be admitted if the judge deems it to be reliable without regard to police procedures. This determination stems from five criteria: a) the witness's confidence, b) the witness's opportunity to see the perpetrator, c) the amount of attention the

eyewitness gave to the crime and perpetrator, d) the precision of the eyewitness's previous description, and e) the amount of time between the crime itself and the identification. One might wish that judges could stay up to date on readings and research and remain aware of issues with eyewitness evidence, but the research is not convincing. In fact, judges disagree with experts approximately 60% of the time on eyewitness issues (Benton, et. al, 2006).

It is times like these when experts are most desperately needed in the courtroom, though unfortunately they remain objects of skepticism by the courts. Admittance of experts in the courtroom varies state by state, an issue which was brought to light in *Perry v. New Hampshire*. These discrepancies have existed for years while the research remains the same. Eyewitness memory experts, unlike other built-in legal "safeguards" are effective at communicating the unreliability and suggestible nature of eyewitness testimony to jurors. Empirical data consistently show that expert testimony can effect decisions in the courtroom (Gemberling & Cramer, 2014).

Over the course of time as research has increased in the field, many procedures have begun to change with regard to the treatment of eyewitnesses. Police departments are more likely now than ever before to have implemented new policies and procedures set in place for lineups and interviews in an attempt to maintain the credibility of the witness and secure untainted memory evidence. Research in this field is ever-growing and police procedures are ever-changing, and courtroom procedures (such as the methods employed by an expert) should continue to be reformed as well.

Research suggests that expert testimony can markedly affect juror beliefs about eyewitness testimony, including beliefs about the credibility of the witness (Martire & Kemp, 2011). Through this research they stress that while it is clear expert testimony may alter juror

decisions, it's difficult to say through current research whether this is a result of the testimony accurately preventing inaccurate convictions.

Without expert testimony, jurors who are not accustomed to determining the quality of investigation and arrest proceedings may neglect to consider things such as interview quality and lineup quality, among many other factors that may impact eyewitness testimony and potentially alter the memory of the eyewitness. Research regarding child witness testimony indicates that expert testimony can help jurors determine the credibility of the witness based on factors such as the interview techniques used by the police. Testimony from the expert did not alter the ratings of the child's credibility (Buck, London & Wright, 2010).

According to the Innocence Project (2014), inaccurate eyewitness testimonies and identifications make up about 72% of the current 329 wrongful convictions that have been later overturned with DNA evidence. Thankfully, as technology advances this issue has been put in the limelight with the large number of eyewitness conviction cases being exonerated by DNA evidence. Research by Devenport and Cutler (2004) suggests that traditional methods such as the cross-examination of eyewitnesses and judicial instructions on the reliability or lack thereof of eyewitness evidence simply is not sufficient to prevent wrongful convictions.

#### *Eyewitness Knowledge: Experts*

Previous research generally uses Kassin, Tubb, Hosch, and Memon's (2001) survey to gauge the knowledge of experts by giving participants a statement and asking whether they believe it to be true or false. For example, one statement is "The presence of a weapon impairs an eyewitness's ability to accurately identify the perpetrator's face." Participants then select 'true,' 'false,' or 'don't know.' Though this measure was initially created to determine expert agreement on eyewitness memory issues, it has been used to measure the knowledge of



laypeople as well. General consensus of the experts from this survey indicates agreement that several factors may influence eyewitness memory. These factors include weapon focus, lineup bias, post-event information, and many others. The results of this study are often cited when judges are attempting to determine the scientific consensus on an eyewitness issue in this area.

Though this study was initially limited to experts, the survey is often used by other researchers to study laypeople. Further research confirms what we know about laypersons' lack of knowledge when it comes to human memory. The problem here is that the survey does not tell us what the respondents actually believe; it only tells us whether they agree or disagree expert opinion on a given topic.

#### *Eyewitness Knowledge: Jurors*

Eyewitness evidence experiences an interesting contradiction where jurors, judges, and attorneys have the belief that they understand memory evidence. As recently as 2013, however, research found that judges and laypeople actually have similarly low levels of knowledge on this issue (Houston, Hope, Memon & Read, 2013). This research also demonstrated that judges tend to put too much faith in jurors' ability to discriminate between accurate and inaccurate eyewitness statements.

Though results may vary slightly study by study, it has been reported that jurors disagree with experts 87% of the time while judges and law enforcement personnel disagree with experts 60% of the time on eyewitness issues (Benton, et. al, 2006). Various studies such as this include both experts and lay people in the study to compare what laypeople think with what experts actually know. In order to increase the real world effectiveness of expert witnesses, it is important to understand what exactly they should address in their testimony to best assist jurors with coming to an educated decision.

Understanding precisely what jurors believe about eyewitness factors is key. Social science research continues to conclude that memory is malleable and eyewitnesses can easily be mistaken. This isn't to say that they aren't telling the truth about what they truly believe; it is simply a reflection on how easily their account of the events can be distorted by time, interviews, and other police procedures. Expert testimony may be ineffective if it does not specifically address juror misperceptions. If this holds true, this research may benefit future cases employing the use of eyewitness testimony.

Is memory evidence common sense then? Cutler, Penrod and Dexter (1990) demonstrated that, in general, jurors are unaware of conditions such as weapon focus, interrogation and lineup techniques, and disguises that may alter the eyewitness's confidence, credibility, and ability to recall information. In fact, this study found that the confidence of the eyewitness was the strongest predictor of verdicts, though countless studies have demonstrated that there is no relationship between witness confidence and accuracy.

### *Misperceptions*

Research on misperceptions surrounding eyewitness memory first came about in 1982 with Deffenbacher and Loftus' Knowledge of Eyewitness Behavior Questionnaire (KEBQ). This 14 item survey allows researchers to examine what laypeople actually believe about issues such as the quality of human memory and the impact of biased lineups. The following question comes from Deffenbacher's questionnaire: "Under less than optimal viewing conditions, such as those of a violent crime, which of the following statements would be true?" This question prompts respondents to choose one of four options indicating their beliefs about the relationship between witness confidence and accuracy: a) The relationship between a witness' stated confidence and his/her accuracy of identification is moderately strong; b) The relationship between confidence

and accuracy is zero; c) The relationship between confidence and accuracy is very strong; d) The relationship between confidence and accuracy is very strong only for those of above average intelligence.

The measure therefore allows researchers to identify what laypeople actually believe and therefore where the most misperceptions about memory exist. The (Deffenbacher & Loftus, 1982) found that overall expert agreement on the correct answers was 82%. Though laypeople performed above guessing level, their accuracy was by no means high. Depending on the question and the topic, correct responses ranged from 16-89%. As a result, the KEBQ actually does reveal two areas in which memory issues may be common sense. College students (79%-89%) agreed that extreme stress lowers a witness's ability to recall a crime and that leading questions during a police interview may affect a witness's accuracy. That being said, participants did not answer accurately enough on any of the other topics to confirm the 'common sense doctrine.'

Based on Kassin's study in conjunction with Deffenbacher's study, we can see the many areas in which laypeople and expert psychologists disagree. These topics include cross-race bias (aka own-race bias), witness confidence and accuracy, and weapon focus. In reality, there is little research outside of this on what misperceptions exist about eyewitness memory. Deffenbacher's survey came around a little bit too soon—the author was before his time in publishing this research, so it does not get much attention. This is problematic because expert testimony may prove to be more useful if it specifically addresses common misperceptions rather than just providing jurors with textbook information.

While jurors may have some initial levels of accuracy regarding eyewitness issues, they may require expert testimony to understand the complexities of the evidence, and to disconfirm

their erroneous beliefs. Unfortunately, most experts only testify on the mechanics of eyewitness memory, which while helpful, may not in fact serve to dispel their notions of what is correct because their misperceptions are not directly addressed.

### THE CURRENT STUDY

The current research seeks to demonstrate the importance of having expert witnesses who testify specifically on common misperceptions about memory evidence in order to provide jurors with the tools necessary to accurately and fully evaluate the eyewitness evidence. It is hypothesized that jurors who receive specific expert testimony will be more likely to find the defendant not guilty, and that they will be more likely to find the eyewitness expert influential, trustworthy, and helpful.

### METHOD

#### *Participants*

Ninety-three (93) individuals participated after recruitment through email and Facebook posts. Six (6) of these individuals were self-described experts in the field of eyewitness memory issues. Non-experts were primarily female (75.7%) ages 18-63 ( $M=32.08$ ).

Experts were recruited through business cards handed out at the American Psychology and Law Society's research conference in San Diego March 19<sup>th</sup>-21<sup>st</sup> 2015, and via email. Experts were predominately male (83%) ages 29-79 ( $M=56.83$ ). All experts had obtained a PhD and all but one (83%) are currently employed in a university setting. Experts had published anywhere from 5-200 peer-reviewed works and consulted with attorneys or testified hundreds of times.

#### *Design*

This study was a 2 (Expert Testimony: Standard or Specific) x 2 (Evidence of Weapon Focus: Present or Absent) between subjects design.

### *Materials*

Materials included a trial summary, court transcript, judge's instructions, verdict page, questionnaire, and demographic questions.

**Trial Summary.** The trial summary informed participants of a fictitious crime. The crime involved the witness seeing someone break into a storage shed. The witness reported that he was threatened with a gun and ran away to call police. The witness later identified the defendant in a lineup (Appendix A).

**Excerpt of Court Transcript.** The court transcript provided information about the court proceedings, including the trial summary and examination of the witnesses (both direct examination and cross examination). It also contained testimony from the eyewitness and the expert witness. All participants received testimony from the eyewitness expert. Participants were then randomly assigned to one of two groups: standard expert testimony or specific expert testimony. In the standard testimony condition the expert testified on general issues regarding memory evidence and weapon focus. In the specific testimony condition, however, the expert also specifically addressed common misperceptions associated weapon focus. The weapon focus condition was also randomized between participants. Those who were placed in the weapon focus present condition read testimony from the eyewitness in which he provided a detailed description of the gun, whereas participants in the weapon focus absent condition did not receive any testimony from the witness about the gun (Appendix B).

**Judge's Instructions.** The judge's instructions provided to the participants instructed them to consider all of the evidence presented when coming to a verdict. It also described the charges brought against the defendant and the definitions of each (Appendix C).

**Verdict Page.** Participants were asked to provide a verdict for the defendant on both charges: third degree burglary and second degree theft (Appendix D).

**Questionnaire.** The questionnaire asked about verdict confidence (on a scale of 1-10) as well as perceptions of other variables such as the usefulness of the expert testimony or credibility of the witness (on a scale of 1-7) (Appendix E).

**Demographics.** All participants were asked to provide basic demographic information such as their age, race, gender, and whether they had served on a jury before. Participants were then asked if they had ever consulted with attorneys or law enforcement or testified at trial. Participants who answered "yes," identifying themselves as experts, were then asked a series of questions about their education, specialty, publications, and history of testifying.

### *Procedure*

In their invitation to participate, participants were provided a link to access the survey online. Participants provided informed consent before proceeding with the study. The participants were instructed to put themselves in the role of a juror and they progressed through the materials. They first read the trial summary. After reading the trial summary they proceeded to read the excerpt of the court transcript containing testimony from the eyewitness, the police officer who responded to the crime, and the expert psychologist. Participants then read the judge's instructions before providing a verdict for each charge in the case. They then completed measures indicating their confidence in the verdict and factors that influenced their decision.

Next, participants answered questions about the character and credibility of both the expert witness and the witness to the crime. Lastly, participants provided demographic information.

## RESULTS

### *Laypeople*

The majority of participants in the standard testimony (74.2%) and specific testimony (52.1%) conditions found the defendant not guilty of burglary. Similarly, mock jurors in the standard testimony (71.9%) and specific testimony (65.1%) found the defendant not guilty of theft. Between the two groups mock jurors reported similar levels of perceived credibility of the witness (standard:  $M=4.22$ ; specific:  $M=4.45$ ) and expert witness (standard:  $M=5.53$ ; specific:  $M=5.37$ ). Mock jurors also reported similar levels of usefulness of the expert testimony (standard:  $M=4.81$ ; specific:  $M=4.67$ ). There were no significant differences in verdict, perceived credibility of the witness or expert witness, nor perceived usefulness of the testimony between groups receiving standard or specific testimony.

The expert condition approached significance for the understandability of the expert in that those receiving standard testimony ( $M=6.03$ ) found the expert to be more clear than those receiving specific testimony ( $M = 5.58$ ;  $t(73)=1.781$ ,  $p=.076$ ).

The weapon focus condition showed a significant difference in verdict confidence ( $p < .05$ ). Participants who read testimony from the witness describing the gun he was threatened with reported significantly lower levels of confidence ( $M = 5.97$ ) in their verdict than participants in the no weapon focus condition ( $M = 7.03$ ;  $t(72)=-.376$ ).

An interaction approached significance for understandability of the expert  $F(3, 71) = 2.195, p = .096$ , whereby those participants who received standard testimony and no weapon focus testimony rated the expert as more clear and understandable ( $M = 6.40, SD = .632$ ).



In terms of gender differences, men found the expert to be significantly more influential ( $M = 5.39$ ) than women ( $M = 4.41; t(72) = 2.297; p < .05$ ). Men also found the expert to be significantly more trustworthy ( $M = 6.00$ ) than women ( $M = 5.29; t(72) = 2.200; p < .05$ ).

### *Experts*

No significant difference in verdict was found between groups in any condition. Information learned during the expert testimony approached significance for the weapon focus and standard testimony condition ( $M = 6.00$ ) in comparison to the non-weapon focus and standard testimony condition ( $M = 1.00; p = .059$ ). Half of the experts strongly agreed that the primary role of the expert is to educate the jury ( $M = 5.67$ ). Half of the experts were neutral in the belief that the role of the expert is to assist a particular party ( $M = 4.17$ ).



## DISCUSSION

It is possible that there were no significant differences in verdict between groups because of the high rates of not guilty verdicts to begin with (a ceiling effect).

Although the expert condition did not have significant results in terms of verdict, it is approaching significance for the understandability of the expert. Participants rated the standard expert testimony to be clearer and more easily understood. Though this may seem like bad news for the specific testimony, it is important to consider why this difference may exist. Participants in the standard testimony condition may have preferred the understandability of the straight forward testimony because it did not go as far to challenge any of their beliefs. Overall, this testimony was simple, concise, and shorter than the specific testimony. It provided jurors with the bare minimum and nothing more as a textbook description of eyewitness memory issues. On the other hand, participants in the specific testimony condition were subject to longer testimony that went further to challenge their current beliefs about memory evidence. It appears as though the specific testimony made jurors more uncomfortable by giving a more in-depth explanation about weapon focus, possibly causing them to question their previous beliefs.

The weapon focus condition also appeared to impact juror beliefs. Participants in the weapon focus condition reported significantly lower levels of confidence in their verdict. Similarly, it is possible that the weapon focus condition complicated juror views of the trial and testimony they were given. It is possible that the participants who read the testimony where the witness provided a description of the gun questioned their decision more because the weapon testimony was an example of weapon focus, the factor that was addressed by experts in both conditions.

The expert and weapon focus conditions together are also approaching significance in verdict confidence. Participants who were in the standard testimony and no weapon focus conditions reported higher ratings of verdict confidence than participants in the specific testimony and weapon focus conditions. The standard testimony and no weapon focus participants received the least amount and essentially most simple versions of the testimony whereas the specific testimony and weapon focus participants received the most testimony in terms of both amount and complexity. Providing this more detailed information impacted their confidence. This is could be indicative of a greater consideration of all of the factors with which they were presented.

In terms of gender differences, the results demonstrate that men found the eyewitness memory expert to be both significantly more trustworthy and significantly more useful than women did. Though this research does not provide for any possible explanations, it may be important to consider that the expert himself was also a man. It would be interesting to note any differences in these results if the expert had instead been a woman.

### *Limitations*

When examining the method and results of this study it is necessary to keep in mind the qualities of real life expert testimony, primarily that it is very lengthy. Expert testimony may last anywhere from thirty minutes to four hours in an actual court case, but for our purposes that was not possible to truly replicate.

Access to the expert demographic was an unexpected barrier in this research. It was difficult to recruit participants from this specific demographic. Additionally, some non-expert participants answered “yes” to the question “Have you ever consulted with an attorney and/or

testified in court?” therefore making it more difficult to isolate the responses of the actual experts.

Future research may consider altering the materials to make the case more ambiguous, therefore drawing out more guilty verdicts from the mock jurors to avoid the ceiling effect.

Future research may also consider employing a third control group in which participants do not receive any expert testimony.

### *Conclusions*

Before completing the study it was expected that mock jurors receiving specific testimony would be more likely to produce a not guilty verdict and more likely to give the expert witness higher ratings of credibility, trustworthiness, and usefulness. In the end, though there were not any significant differences in the verdicts provided by participants in each condition, the results are still interesting. It is important that the mock jurors in the study felt increasingly uncomfortable with their verdicts as the depth of the testimony they were provided continued to increase. Even though it may make jurors uncomfortable, specific expert testimony is necessary because it makes them take the extra time to think about their verdict and really wonder if they are making the right choice. There is still a lot of research yet to be done on what jurors do and do not know, as well as the most effective way for an expert to testify in order to properly educate the jury on the problems associated with eyewitness memory.

## References

- Benton, T.R., Ross, D.F., Bradshaw, E., Thomas, W.N., & Bradshaw, G.S. (2005). Eyewitness memory is still not common sense: Comparing jurors, judges and law enforcement to eyewitness experts. *Applied Cognitive Psychology*, 20, 115-129. doi: 10.1002-acp.1171
- Berkowitz, S.R. & Javaid, N.L. (2013). It's not you, it's the law: Eyewitness memory scholars' disappointment with *Perry v. New Hampshire*. *Psychology, Public Policy, and Law*, 19(3), 369-379. Berkowitz & Javaid, 2013
- Buck, J.A., London, K., & Wright, D.B. Expert testimony regarding child witnesses: Does it sensitize jurors to forensic interview quality? *Law and Human Behavior*, 35, 152-164. doi: 10.1007/s10979-010-9228-2
- Cutler, B.L., Penrod, S.D., & Dexter, H.D. (1990). Juror sensitivity to eyewitness identification evidence. *Law and Human Behavior*, 14(2), 185-191. doi: 10.1007/BF01062972
- Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 125 L.Ed.2d 469, 113 S. Ct. 2786 (1993).
- Deffenbacher, K.A. & Loftus, E.F. (1982). Do jurors share a common understanding concerning eyewitness behavior? *Law and Human Behavior*, 6, 15-30. doi: 10.1007.BF01049310
- Devenport, J.L. & Cutler, B.L. (2004). Impact of defense-only and opposing eyewitness experts on juror judgments. *Law and Human Behavior*, 28(5), 569-576. doi: 10.1023/B:LAHU.0000046434.39181.07
- Fed. R. Evid. 403
- Fed. R. Evid. 702
- Frye v. United States, 293 F. 1013

- Gemberling, T.M. & Cramer, R.J. (2014). Expert testimony on sensitive myth-ridden topics: Ethics and recommendations for psychological professionals. *Professional Psychology: Research & Practice*, 44(2), 120-127. doi: 10.1037/a0036184
- Houston, K. A., Hope, L., Memon, A., & Read, J.D. (2013) Expert testimony on eyewitness evidence: In search of common sense. *Behavioral Sciences and the Law*. doi: 10.1002/bsl.2080
- Houston, J.P. (1985). Untutored lay knowledge of the principles of psychology: Do we know anything they don't? *Psychological Reports*, 57, 567-570.
- Innocence Project (2014). FAQs. Retrieved from [http://www.innocenceproject.org/Content/What\\_are\\_the\\_causes\\_of\\_wrongful\\_convictions.php](http://www.innocenceproject.org/Content/What_are_the_causes_of_wrongful_convictions.php)
- Kassin, S.M., Tubb, V.A., Hosch, H.M., & Memon, A. (2001). On the 'general acceptance' of eyewitness testimony research: A survey of the experts. *American Psychologist*, 44, 1089-1098.
- Martire, K.A., & Kemp, R.I. (2009). The impact of eyewitness expert evidence and judicial instruction on juror ability to evaluate eyewitness testimony. *Law and Human Behavior*, 33, 225-236. doi: 10.1007/s10979-008-9134-z
- The province of the jurist: Judicial resistance to expert testimony on eyewitnesses as an institutional rivalry. (2013) *Harvard Law Review*, 126(8), 2381-2402.
- Vallas, J. (2011). A survey of federal and state standards for the admission of expert testimony on the reliability of eyewitnesses. *American Journal of Criminal Law*, 39(1), 97-146.

## Appendix A

## Trial Summary

We ask that you put yourself in the role of a juror. You will read a summary of a trial, excerpts of court testimony of the eyewitness and the expert (the main sources of evidence), provide a verdict, and then answer some questions about your experience.

The People of the State of Iowa, v. Mark Staley, Defendant

No. 83DC0970

Black Hawk County District Court, Division One

August 2, 2013

Bailiff's Notes: None

Transcriber's Notes: None

## CASE SUMMARY

***Crime Event***

On Sunday July 29th, 2012, Mr. James Mitchell was a passerby of Bagwell Storage Units, and witnessed the burglary of one of the storage units. The burglary occurred at dusk, around 6:00pm. Mr. Mitchell was around 15 feet away from the incident. He said that a man cut the lock on the garage and as he approached the perpetrator pointed a gun at him and threatened to shoot if he did not leave immediately. Mr. Mitchell ran away and called 911 reporting the crime. When interviewed by police he reported seeing a 5'10" Caucasian male in a blue hooded sweatshirt. Mr. Mitchell stated that the perpetrator ran into the storage unit and carried out a large box.

***Investigation***

Officers interviewed the witness Mr. Mitchell to obtain the details of the crime at the scene of the crime, and again a day later at the police station. Mr. Mitchell was presented with a photo lineup that contained the defendant Mark Staley. Mark Staley was identified by Mr. Mitchell.

***Charges***

The State has charged Mark Staley with second degree burglary and second degree theft. These charges stem from events that occurred on July 29th 2012. Further details of these charges will be included in the instructions you will receive from the judge.

***Pre-Trial Hearing***

A request was made that Dr. Allen Whitfield, a professor of psychology and law, be allowed to testify as an expert in this case regarding problems with eyewitness identification when a weapon is present. After review of Dr. Whitfield's vita, the motion was granted.

***Evidence***

The evidence consists of an eyewitness' testimony and identification, and an expert's testimony. Exhibits include the lineup, and the valuation of the items stolen totaling \$1500. There is no additional evidence.

Appendix B  
Trial Excerpt

*Excerpt of Court Proceedings*

In this excerpt you will be reading the testimony of the eyewitness, Mr. James Mitchell who will be testifying about his experience viewing the perpetrator of this crime

Prosecuting Attorney: “Could you please state your name for the record?”

James Mitchell: “James Mitchell, M-I-T-C-H-E-L-L”

Prosecuting Attorney: “Could you tell us what you were doing on July 29th, 2012 around 6pm?”

James Mitchell: “I was walking on the sidewalk next to Bagwell Storage Units. I happened to look over and saw a man, sort of huddled up against a unit. It just looked a little strange to me, and then I saw him toss the lock down, roll up the door...I’m sort of just standing there watching...and then he saw me, pointed a gun at me and told me to leave or else he would shoot. As I ran off I looked back and saw him walking out with a box. I called the police as soon as I thought I was out of his sight.”

Prosecuting Attorney: “About how far away from him were you?”

James Mitchell: “I don’t know, maybe like 15 feet or so.”

Prosecuting Attorney: “Were you able to describe him to the police when they arrived?”

James Mitchell: “Yes, I provided a description of him.”

Prosecuting Attorney: “Concerning this defendant, Mark Staley, what was the description you provided for him?”



James Mitchell: "I described him as being a Caucasian male, early 20s, short hair, with glasses. He was also wearing a blue sweatshirt with the hood up."

Prosecuting Attorney: "Did you see a lineup at any point?"

James Mitchell: "Yes, the officer had me come down to the station the next day. He had me look at a lineup."

Prosecuting Attorney: "Is this the lineup you viewed?" (provides lineup for Mitchell to see)

James Mitchell: "Yes."

Prosecuting Attorney: "Your honor I would like to introduce the lineup as Exhibit A."

Judge: "Accepted and received."

Prosecuting Attorney: "Who did you choose in this lineup?" (hands lineup to Mitchell, and he points to someone). "Let the record reflect that Mr. Mitchell identified the defendant Mark Staley, in position 4."

Prosecuting Attorney: "Thank you. No more questions"

Judge: "Do you have any questions for this witness?" (directed to Defense Attorney)

Defense Attorney: "Yes your honor. Thank you Mr. Mitchell. Just a couple of questions. About how far away did you say you were?"

James Mitchell: "About 15 feet or so"

Defense Attorney: "So could you really see details of the face?"

James Mitchell: "I don't know, I feel like I got a good look."

Defense Attorney: "Okay, well your description of the perpetrator was pretty vague don't you think? For the defendant you said male, with glasses, mid 20s, short hair, is that correct?"

James Mitchell: "Yes, that was my description."

Defense Attorney: "And really, you only saw him for what, 5 seconds? 5 seconds, 15-20 feet away?"

James Mitchell: "Well, yeah."

Weapon focus condition: Absent

Defense Attorney: "Thank you, no further questions."

Judge: "Anything further?" (to Prosecuting Attorney)

Prosecuting Attorney: "Not for this witness, no."

Judge: "Ok, call your next witness."

Prosecuting Attorney: "No further questions your honor, and that is our last witness."

Weapon focus condition: Present

Defense Attorney: "Okay, did you get a good look at the weapon he pointed at you?"

James Mitchell: "Yes, I did."

Defense Attorney: "Could you describe it?"

James Mitchell: "Yes, it looked like a black and silver handgun, a Baretta I think."

Defense Attorney: "Thank you, no further questions."

Judge: "Anything further?" (to Prosecuting Attorney)

Prosecuting Attorney: "Not for this witness, no."

Judge: "Ok, call your next witness."

Prosecuting Attorney: "No further questions your honor, and that is our last witness."

### ***Excerpt of Court Proceedings***

In this excerpt you will be reading the testimony of the expert witness Dr. Allen Whitfield who will be testifying about problems with eyewitness identification when a weapon is present.

Defense Attorney: “The Defense calls Dr. Allen Whitfield” (Whitfield proceeds to witness chair, is seated and sworn in). “Dr. Whitfield, could you please tell us your name and a little bit about yourself?”

Dr. Whitfield: “Certainly. My name is Allen Whitfield, A-L-L-E-N, W-H-I-T-F-I-E-L-D. I am professor of Psychology and Law at the University of Nebraska-Lincoln. I teach undergraduate and graduate courses in psychology and law, and conduct research in the area of eyewitness memory and face recognition.”

Defense Attorney: “Can you describe for the court your research?”

Dr. Whitfield: “Sure. Most of my research is focused on people’s memory for faces, particularly in eyewitness contexts. Memory errors can occur in a variety of contexts that can lead to problems in eyewitness identification. The problem arises in that people often still make an identification. It's not like these problems result in people saying that can't identify someone. In fact, they can and do make an identification, but the identification may be inaccurate and unreliable.”

Defense Attorney: “Did you review the materials and evidence for this case?”

Dr. Whitfield: “Yes, I did”

Defense Attorney: “Could you give us your expert opinion on any factors relevant to your research that are present in this case.”

Expert testimony: Standard

Dr. Whitfield: “Yes. One particularly important factor in terms of the identification is the presence of a weapon. This has been studied extensively, and scientists know a lot about face recognition and identification when a weapon is present in a crime situation. Essentially, the presence of a weapon hurts the eyewitness’s ability to accurately identify a perpetrator’s face.

This is thought to be due to the attention of the witness being drawn to the gun and not the face. This attentional focus on the gun is not always conscious and interferes with the ability to remember the person's face. This doesn't mean that an eyewitness can't or won't make an identification. In fact, witnesses often do. What it means is that you can't be certain that the identification is accurate."

Expert testimony: Specific

Dr. Whitfield: "Yes. One particularly important factor in terms of the identification is the presence of a weapon. This has been studied extensively, and scientists know a lot about face recognition and identification when a weapon is present in a crime situation. Essentially, the presence of a weapon hurts the eyewitness's ability to accurately identify a perpetrator's face. This is thought to be due to the attention of the witness being drawn to the gun and not the face. This attentional focus on the gun is not always conscious and interferes with the ability to remember the person's face. One might think that being in that scary situation, that you would *never* forget that face, that knowing you were a witness would mean that you were concerned with being able to identify the person and would pay special attention to their face. However, the science shows that this is simply not the case, as counterintuitive as that may sound. This doesn't mean that an eyewitness can't or won't make an identification. In fact, witnesses often do. What it means is that you can't be certain that the identification is accurate."

Defense Attorney: "Thank you Dr. Whitfield. No further questions."

Judge: "Do you have any questions for this witness?" (directed to Prosecuting Attorney)

Prosecuting Attorney: "Yes. Dr. Whitfield, are you calling Mr. Mitchell a liar?"

Dr. Whitfield: "Absolutely not. This is about how the brain processes information, nothing more."

Prosecuting Attorney: "And you can't specifically determine whether or not this witness was subject to this 'weapon focus effect' as you call it, can you?"

Dr. Whitfield: "No, I cannot. I can only report the science about what we know about face recognition under these circumstances."

Prosecuting Attorney: "And he did make the identification, did he not?"

Dr. Whitfield: "Yes, he did, but as I mentioned previously, that is common. Just because someone makes an identification does not mean it is accurate."

Prosecuting Attorney: "But it could be accurate though."

Dr. Whitfield: "Sure."

Prosecuting Attorney: "No further questions."

Judge: "Anything further? (to Defense Attorney)"

Defense Attorney: "No your honor, we are done."

## Appendix C

## Judge's Instructions

You must determine the defendant's guilt or innocence from the evidence and the law in these instructions. The burden is on the State to prove the defendant guilty beyond a reasonable doubt. A reasonable doubt is one that fairly and naturally arises from the evidence or lack of evidence produced by the State.

I would like to define for you the elements of the crime with which the defendants have been charged. The State has charged the defendants with second degree burglary and second degree theft. You will be asked to render a verdict on each of those charges for the defendant.

Iowa law defines burglary as entering a structure that isn't open to the public, without permission and with the intent of committing a felony, assault or theft. What other states may call "breaking and entering" is burglary under Iowa law. Second-degree burglary occurs when the burglar has a weapon but there is no other person present, or if there is another person present, but the burglar has no weapon and does not inflict any bodily harm.

Second-degree theft occurs when the theft of property exceeding one thousand dollars but not exceeding ten thousand dollars in value or theft of a motor vehicle as defined not exceeding ten thousand dollars in value.

In deciding what the facts are, you may have to decide what testimony you believe and what testimony you do not believe. You may believe all of what a witness said, or only part of it, or none of it. In deciding what testimony to believe, consider the witness's intelligence, the opportunity the witness had to have seen or heard the things testified about, the witness's memory, any motives that witness may have for testifying a certain way, the manner of the witness while testifying, whether that witness said something different at an earlier time, the

general reasonableness of the testimony, and the extent to which the testimony is consistent with any evidence that you believe. In deciding whether or not to believe a witness, keep in mind that people sometimes hear or see things differently and sometimes forget things. You need to consider therefore whether a contradiction is an innocent misrecollection or lapse of memory or an intentional falsehood, and that may depend on whether it has to do with an important fact or only a small detail. You have heard testimony from persons described as experts. Persons who have become experts in a field because of their education and experience may give their opinion on matters in that field and the reasons for their opinion. Consider expert testimony just like any other testimony. You may accept it or reject it. You may give it as much weight as you think it deserves, considering the witness's education and experience, the reasons given for the opinion, and all the other evidence in the case.

In this case, the defendant has decided not to testify. The defendant is not required to testify, and no inference of guilt shall be drawn from that fact. The burden of proof remains upon the State to prove the guilt of the defendant.

The purpose of the court's instructions is to provide you with the applicable law so that you may arrive at a just and lawful verdict. Whether some instructions apply will depend upon what you find to be the facts. Disregard any instruction that applies to facts determined by you not to exist. Do not conclude that because an instruction has been given that the court is expressing any opinion as to the facts of this case.

Appendix D

Verdict Page

As a juror would you find Mr. Staley not guilty or guilty of the following charges?

**State of Iowa v Staley**

Burglary in the 3<sup>rd</sup> degree \_\_\_\_\_ Not Guilty \_\_\_\_\_ Guilty

Theft in the 2<sup>nd</sup> degree \_\_\_\_\_ Not Guilty \_\_\_\_\_ Guilty





How influential did you find the expert witness's testimony?

1	2	3	4	5	6	7
Not at all						Very

How useful did you find the expert testimony to be?

1	2	3	4	5	6	7
Not at all						Very

How likeable did you find the expert to be?

1	2	3	4	5	6	7
Not at all						Very

How clear and understandable did you find the expert testimony to be?

1	2	3	4	5	6	7
Not at all						Very

How professional did you think the expert was?

1	2	3	4	5	6	7
Not at all						Very

How trustworthy did you think the expert was?

1	2	3	4	5	6	7
Not at all						Very

How much do you feel you learned from the expert testimony?

1	2	3	4	5	6	7
Not at all						A lot

How much did your previous knowledge of eyewitness evidence change?

1	2	3	4	5	6	7
Not at all						A lot