PROSECUTORIAL STRATEGIES FOR MANAGING EXPERT SCIENTIFIC EVIDENCE

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ABSTRACT

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This study explores the role of prosecutors in managing scientific evidence and expert witness testimony during the pretrial stages of a criminal case. Prosecutors are in charge of making important decisions at every step of a criminal case, and scientific evidence and expert witness testimony affect these decisions. The purpose of the research is to explore the ways in which prosecutors are influenced by scientific evidence, and how prosecutors engage in interactions with expert witnesses whose role it is to present the scientific testimony to the court. The focus of the research is on the backstage processes of assistant prosecutors; how they prepare and address scientific evidence during the early stages of a criminal case and how this affects strategies and decision-making.

An exploratory, grounded theory methodology was used to conduct 19 semi-structured interviews with former and current assistant prosecutors in Michigan. Several key themes emerged from the data. First, resources and budget constraints influenced prosecutorial decision-making during the pretrial stages of a case. This generally involved the prosecutors' ability to charge a suspect, enter into plea negotiations with the defense, or call experts. Second, prosecutors communicated early with defense attorneys about all evidence, but judges played a less significant role in the pretrial process of discussions about scientific evidence. Communication with defense attorneys involved plea negotiations for some prosecutors, but emphasized the discovery process in all cases.

Third, the pretrial preparation of scientific evidence involved self-preparation by prosecutors, and reciprocal education between the expert and the prosecutors. This preparation process was similar for many prosecutors, but was influenced by whether the expert was routine or non-routine. Finally, the shift in access to technology as well as the media about criminal investigations has impacted prosecutors in how they manage juror expectations and defense strategies in order to demonstrate why scientific evidence may not be found at the crime scene.

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CHAPTER 1

INTRODUCTION

Statement of the problem

Prosecutors are one of the most important members of the courtroom workgroup. The role of prosecutors in the criminal justice system is to determine how to dispose of criminal cases in an efficient manner, and also to be successful in obtaining a guilty plea or verdict (Worrall, 2008). Prosecutors are especially important and powerful figures in the U.S. criminal justice system due to the decisions they must make at every stage of the criminal justice process and the broad discretion granted to them for doing so (Worrall, 2008; Davis, 2007; Melilli, 1992).

One of the first, and most important decisions a prosecutor must make is whether or not to charge a suspect and, if so, on which and how many counts (Worrall, 2008; Melilli, 1992). Once the decision to charge has been made, further decisions involve whether to enter into a plea negotiation or to take the case to trial (Worrall, 2008). These routine and daily activities allow prosecutors to control the path of a criminal case, as well as have a more significant impact on the outcome of a case than any other member of the courtroom workgroup (Davis, 2007). However, the discretion of a prosecutor does not end there. Bearing the burden of proof to convince fact-finders of the defendant's guilt beyond a reasonable doubt, prosecutors must use their discretion to select which evidence will be presented in the case, which witnesses will be called, and how this real and testimonial evidence will be presented both in terms of timing and framing (Davis, 2007). Thus, one way a prosecutor utilizes his or her discretion early in the legal process is by recognizing the types and amount of evidence that exist. A prosecutor will likely

take a case to trial when he or she deems the evidence to be legally sufficient and, in addition, when the prosecutor believes he or she will be able to strategically deploy this evidence at trial in such a way that the result will be a high likelihood of a conviction (Powers, 1997; Mellon, Jacoby, & Brewer, 1981).

Prosecutors must contend with many different types of evidence at the initial stages of a case. This evidence can come in a variety of forms, such as eyewitness evidence, confessions, and scientific evidence, to name a few. Scientific expert evidence has become increasingly pervasive throughout the criminal trial process due to the advancements in technology and police officers' ability to appropriately locate evidence in the form of fingerprints, blood analysis, DNA, ballistics, etc. Prosecutors have significant discretion when contemplating decisions from the earliest stage of a case, beginning with the charging decision up to the presentation of the information to the court. Evidence influences many of these early decisions. Since the prosecutor's goal is to construct a plausible narrative for the fact-finder (judge or jury) to prove the guilt of the defendant, one established strategy is to draw upon the scientific expertise of a witness.

Scientific evidence and the attendant testimony delivered by the expert have the ability to influence many aspects of the pretrial decision making process. First and foremost, the evidence that exists in a case drives the decision to charge a suspect with a crime (Hessick and Saujani, 2002). Often, this evidence comes in the form of scientific evidence such as DNA or fingerprints found at the crime scene. The use of all of these types of evidence requires the testimony of an expert in the relevant field whether it is DNA evidence or psychological evidence. In many cases, prosecutors rely on such

experts in order to help the fact-finder understand either ambiguous or technical characteristics of the defendant or case. Prosecutors must first recognize and understand the scientific evidence that is a component of the case. They also must strategize about how to use the evidence and how to prepare the evidence and expert witness testimony that will be offered at trial. It is these decisions and preparations during the pretrial phase of the process that are the topic under study.

Given the importance of the role of a prosecutor, one might presume that academic researchers would devote significant attention to prosecutors. However, in comparison to other aspects of criminal justice, such as policing, prosecutors have received limited and incomplete attention from scholars (Worrall, 2008). The existing studies of prosecutors in academic literature are important and address several aspects of their roles and functions in the criminal justice system. Studies have examined prosecutors in areas that demonstrate their roles and power, the relationship of the prosecutor to other courtroom actors, and prosecutorial discretion and decision-making. Other aspects of prosecutors' behavior and influence, including pretrial preparation strategies and decisions, are yet to be fully studied.

Research focus

In the most famous study of prosecutors, Eisenstein and Jacob (1977) addressed the relationships and roles of the prosecutor in the courtroom workgroup. The authors demonstrated that a prosecutor does not function on his or her own. Using an organizational perspective, they showed that prosecutors must work closely with defense attorneys and judges in a manner that affects the dynamics of decision-making. Another well-studied area for prosecutors has been the plea-bargaining process; an integral and

exceptionally influential component to the criminal justice system (Alschuler, 1968; 1995; Bibas, 2004). Additionally, prosecutors have a high degree of discretion in the system. Thus, studies of prosecutors focus on this discretion with an emphasis on the charging decision, as this tends to be the point where prosecutors have the most discretion (Albonetti, 1986; 1987; Burke, 2005; Cole, 1984).

As indicated by the foregoing summary, much of the attention on prosecutors has focused on the charging decision and plea-bargaining. Comparatively little attention has been focused on the prosecutors' strategies and actions in the pretrial phases of the process. One specific gap in the literature concerns the connection between prosecutors and expert witness testimony with an emphasis on scientific testimony. Although the topic of expert witness testimony has been studied in the civil realm with civil attorneys (Champagne, Shuman, and Whitaker, 1992; 1994; 1996), the criminal court system and prosecutors' interactions with witnesses have not been addressed in significant detail. There are important differences between civil and criminal case processes that make studies of civil cases inapplicable to the criminal trial process. In particular, the criminal realm has a different organizational context, and therefore it is necessary to examine this context specifically in order to understand prosecutors' use of expert witnesses in criminal trials.

Scientific evidence has been a topic of increasing interest to scholars as it is used very frequently in cases ranging from drunk driving to homicide. The influence and effect that scientific evidence has on criminal cases has been addressed in the literature with a specific emphasis on jurors' expectations (e.g. the CSI effect) (Schwietzer & Saks, 2007; Shelton, Kim, & Barak, 2006; Thomas, 2006; Tyler, 2006), the impact of scientific

testimony on juror decision-making (Krauss & Sales, 2001), and the potential for the misuse of scientific evidence (Saks, 2001; Murphy, 2007). However, this research neglects to examine the interaction between scientific evidence, expert witnesses, and prosecutors during the pretrial phases of a criminal case. The research presented here seeks to fill in this gap in the literature regarding prosecutors and their strategies for managing scientific evidence and preparation of expert witness testimony in the criminal trial process, specifically during pretrial preparation.

Current study

This study seeks to understand the complex interactions between prosecutors and expert witnesses as well as prosecutors' strategies for managing scientific evidence during the pretrial stages of a criminal case. Scientific evidence is defined broadly to incorporate all types of scientific evidence including but not limited to both hard and soft sciences: DNA, ballistics, fingerprint, psychology, veterinary medicine, medical examiners, etc.

The purpose of this project is to analyze the pretrial processes of prosecutors when scientific testimony or expert evidence is considered for use in a case. Goffman's theory focusing on presentation of self will serve as the framework in order to determine the backstage interactions between prosecutors and expert witnesses as prosecutors contemplate the use of scientific evidence. The backstage, according to Goffman, refers to the behind the scenes activities and interactions that occur away from the audience (Goffman, 1959). The audience in this context refers to the defense attorneys, judges, and jurors with whom the prosecutor interacts at different stages in the pretrial and trial process.

Although the interactions with the audience are clearly important and affect the decision making of the court actors, this project is ultimately concerned with the pretrial process. During the pretrial process, prosecutors must make many important decisions about which evidence to seek, how that evidence will be used, and preliminary interactions with witnesses about the effective presentation of evidence. While there are a number of studies that address the ways that prosecutors contemplate evidence early on in a case, these studies do not address scientific testimony specifically and prosecutors' attendant preparation of expert witnesses.

This research study contributes to the literature by examining the ways in which prosecutors strategize about scientific evidence during the pretrial stages of a case. The nature of the interactions between prosecutors and experts in the context of managing the impressions of defense attorneys, judges, and jurors were explored. This study does not take for granted the process by which prosecutors develop strategies but instead attends to the complex ways they establish not just the legal sufficiency of a case, but also its trial sufficiency (Powers, 1997). Legal sufficiency is when the evidence supports the crime charged and there is enough evidence for a prosecutor to move forward with a case, while trial sufficiency emphasizes whether the prosecutor can produce a conviction at trial (Mellon, et al., 1981)

Research question

The central research question motivating this research is: How does expert scientific evidence influence prosecutorial decision-making regarding the preparation process during the pretrial stages of a criminal case? Put another way, how do

prosecutors strategize about the use of scientific evidence and the ways in which to effectively prepare expert witnesses who address the scientific evidence?

There are a number of different issues that were explored to shed light on the research question and the role of the prosecutor. Using a qualitative approach provided the researcher a more detailed understanding of the process used by prosecutors to decide that an expert is needed and which expert should be used. When faced with a complex case that requires many experts, prosecutors may focus their attention on certain desirable characteristics of an expert's credentials or experience as an expert witness, which may drive prosecutors to actively seek out or select a specific expert witness. It is important to note that many cases do not go to trial, and thus prosecutors may not utilize experts at trial, but instead use the existence of expert evidence as a bargaining tool during plea negotiations.

Prosecutors and defense attorneys usually negotiate a plea in order to resolve criminal cases. In attempting to understand the entire process of expert witness testimony, another important dimension of this study was to assess the communication between the defense attorney and the prosecutor regarding scientific evidence and expert witnesses. In order to determine how expert witnesses may influence the decision to negotiate a plea, it was essential to determine if prosecutors are strategically presenting this type of evidence early on in the negotiation process in order to persuade the defense attorney and defendant to plead guilty, and thereby resolve the case prior to a trial. Since prosecutors and defense attorneys interact early during the discovery process, the suggestion that a prosecutor will support his or her case at trial with expert scientific testimony could play a role in plea negotiations. Plea negotiations represent the resolution

process for a significant majority of cases that proceed through the criminal court. However, when prosecutors determine that the evidence of a particular case is strong and the crime in question is especially serious, they may be more likely to take a case to trial rather than resolving the case through compromises in plea negotiations. The potential existence and nature of expert evidence may serve as an important component to this decision-making process.

One role of the judge is to determine if the testimony that will be provided by the expert should be admitted as expert evidence. The state and federal rules of evidence as well as case precedents determined by the U.S. Supreme Court and other courts establish the standards and rules surrounding the admissibility of expert evidence. Based on these standards, it was useful to explore the nature of the interactions between the prosecutor and the judge. The interactions determine how the prosecution may present his or her experts in order to ensure that the testimony will be admitted as expert evidence that comports with applicable legal rules.

Cases that have multiple experts and cases that are relatively complex and need the integration of expert testimony may be more likely to go to trial because such evidence often drives prosecutors' decisions to go to trial. Expert testimony can be especially valuable and powerful evidence for the prosecution (Hessick and Saujani, 2002). The fact-finders in these trials, whether it is judges in a bench trial, or jurors in a jury trial, are influenced by the type and amount of evidence that will be presented to the court. Previous research indicates that jurors, in particular, are influenced by expert witness testimony. Given the importance of expert testimony in many trials, the current

study seeks to understand prosecutors' preparations regarding this type of testimony that will ultimately aid in the presentation of the expert to the fact-finder.

Another issue that was explored in this study is how the prosecutor may help to prepare an expert prior to trial and whether the prosecutor attempts to shape or dictate the form and content of experts' testimony or whether prosecutors rely on the expert to determine how to divulge the necessary information. The type of expert testimony may play a role in this decision-making process. There are many different types of expert testimony that can be utilized at trial and social science testimony has become more prevalent in recent decades. Gaining information about how prosecutors manage social science testimony compared with other types of scientific testimony allowed this researcher to explore whether the type of expert testimony influences prosecutors differently.

More importantly to the central research question is how prosecutors manage all types of expert testimony, and whether scientific evidence is treated differently than other types of testimony. For example, the "CSI effect" has been addressed by recent academic literature to consider jurors' expectations and understanding of scientific testimony. Prosecutors may be concerned about the risk that jurors will be influenced by the absence of scientific evidence presented at trial, perhaps resulting in more acquittals. This research seeks to understand whether and how prosecutors prepare to satisfy jurors when prosecutors believe—accurately or not—that the jurors will expect more scientific evidence. Prosecutors may prepare information differently in an attempt to demonstrate the strength of their case if they believe in the existence of a CSI effect, even if research demonstrates inconclusive results on the question of whether such phenomenon actually

exists. Additionally, prosecutors' concern with the effect of television programs on jurors' expectations may affect their strategies during voir dire in order to address the misconceptions that jurors have about scientific evidence at the earliest possible stage of a case.

Finally, the courtroom workgroup has been well researched in prior studies, and this organizational concept was important for examining the role of prosecutors and expert witnesses working together in this organizational environment. The courtroom workgroup consists of prosecutors, defense attorneys, and judges who work together closely and often. The relationship that develops between these courtroom actors influences decision-making in all aspects of the criminal court process outlined above (i.e. negotiations, admissibility of evidence, preparation for trials). Prosecutorial strategies regarding expert witnesses must be examined from this organizational context, and therefore this research seeks to explore the role of the expert in relation to the courtroom workgroup. It will be important to assess whether, and to what degree, the expert witness plays a role and possibly influences prosecutors' strategies in the presentation of expert testimony to the other members of the courtroom workgroup. A frequently utilized routine expert witness may actually function as part of the workgroup through regular interactions with specific prosecutors, judges, and defense attorneys.

Overview

In the following sections, I will assess the existing literature to provide the necessary context for the issues that are at the core of this study's focus, the methodological techniques that were utilized, the key themes, as well as a discussion, conclusion, and implications for future research.

In Chapter 2 the literature review includes literature on the roles of prosecutors in the courtroom workgroup, as well as the important connections to defense attorneys and judges in the context of scientific testimony. The literature review also address the impact of expert testimony and scientific evidence regarding jury decision-making. There are significant gaps in this literature. In particular, an issue that has not been previously addressed is how prosecutors strategize their cases early on when scientific evidence and expert witnesses are used in a case. Chapter 2 also addresses the theoretical framework for this study. Erving Goffman's (1959) theories of impression management, which focus on social actors' attempts to influence others' perceptions through the strategic regulation of information in social interactions, guided the research to inform an analysis of backstage (behind the scenes) processes.

Chapter 3 explains the methodological techniques utilized for this research. By adopting a qualitative approach using semi-structured interviews, this study provides a more robust understanding of the dynamics of the relationship between the prosecutor, scientific evidence, and the expert. The methodology of grounded theory will be explained along with a detailed description of the research participants, interview protocol and coding technique.

Chapters 4 through 7 address the key findings and themes that were developed and analyzed. Chapter 4 presents findings related to the external pressures of limited resources and budgets with which assistant prosecutors must contend. The way that resources directly impact prosecutors' decisions about scientific evidence and expert witness testimony is also addressed. Chapter 5 addresses the pretrial communication that the prosecutor has with other courtroom workgroup members including defense attorneys

and judges. A brief discussion on how scientific evidence impacts both plea negotiations and interactions with judges regarding the admissibility of evidence will be presented. Chapter 6 emphasizes the different ways that prosecutors engage in preparation of both the scientific evidence and expert witness testimony. These preparation processes involve reciprocal education between the prosecutor and the expert, with a significant amount of self-preparation for the prosecutor. Routine and non-routine expert witnesses are distinguished, which influenced the preparation by prosecutors. Chapter 7 provides a discussion about how prosecutors manage a lack of scientific evidence, particularly when they consider jurors' expectations and possible defense strategies. Prosecutors' perceptions of a "CSI effect" influence how they approach both jury voir dire and scientific expert witnesses.

Chapter 8 includes a full discussion of the four themes that were presented in the findings in order to demonstrate the strengths of this research. The limitations of this study are also included in this chapter. Finally, directions for future research are discussed in order to demonstrate that while there may be limitations to this study, it provides a foundation for additional future research.

CHAPTER 2

LITERATURE REVIEW

Prosecutors and the courtroom workgroup

Prosecutors are the most powerful figure in the courtroom workgroup, and because of the burden of proof standards, have an effect on every aspect of the criminal case. However, prosecutors function within an organizational context and are necessarily affected by other legal and non-legal actors. Despite the significant power and discretion that the prosecutor possesses, prosecutors' behavior has not been thoroughly studied in all of its dimensions, partly due to the conception of prosecutors as case processors, rather than as strategic courtroom actors (Worrall, 2008). Thus, much of the existing research concerns charging decisions and plea-bargaining. Greater scholarly attention is needed to expand the recognition that the role of the prosecutor has evolved from its historical roots as an isolated government official who simply processes cases, to an important decision maker who is more focused on thinking strategically within the confines of the criminal justice system (Worrall, 2008). By adopting an organizational perspective, this study begins to develop a more thorough understanding of how prosecutors strategically interact with multiple courtroom actors regarding expert evidence. Prosecutors routinely work in an organizational context that includes interactions with different decision-makers including defense attorneys, judges, and jurors. The relationship between prosecutors, defense attorneys, and judges often reflects the concept of a courtroom workgroup as developed in the classic work by Eisenstein and Jacob (1977).

One major component of the courtroom workgroup is that it is not hierarchical, with the judge as the sole ruler of the courtroom. Rather, the judge, prosecutor and defense attorney have specific roles, and function together to accomplish their given tasks, which is to dispose of cases that come before the court (Eisenstein & Jacob, 1977). It is the interrelationships among the courtroom workgroup that influence the disposition of case. One example of this influence is the close relationships that actors in these workgroups can have with one another. The closer the relationship the more likely the actors are to use negotiation techniques to dispose of a defendant's case (Eisenstein & Jacob, 1977). Another component of courtroom workgroups is that these workgroups have external pressures that they must deal with effectively in order to accomplish goals. Several external pressures are identified, including law enforcement officials, legislative bodies, higher courts, resources, and the media (Eisenstein & Jacob, 1977). The characteristics of this external environment will dictate how the workgroup functions, so that if there is increased political or media pressure to focus on a certain set of cases, then the actors in that system will recognize these pressures and act accordingly (Eisenstein & Jacob, 1977). Ultimately the organizational framework outlined by Eisenstein and Jacob (1977) and elaborated more completely by Eisenstein, Flemming, and Nardulli (1999) focuses on courts as communities and addresses issues of interdependency (how courtroom actors depend on one another) and local legal culture, which consists of the values and perceptions of the courtroom actors (Eisenstein, et al., 1999). After detailing the behaviors and inner workings of several court jurisdictions these authors conclude that the size of the court jurisdiction is the most influential factor in detailing how the courtroom workgroup functions (Eisenstein et al., 1999). The size of a jurisdiction can

impact the resources at the disposal of prosecutors, which in turn can affect many decisions, ranging from negotiating a plea with the defendant, to calling expert witnesses.

Prosecutors and defense attorneys: Negotiating a plea

Given that the resolutions for approximately ninety percent of criminal cases are determined by plea negotiation, (Hollander-Blumoff, 1997) the presentation of prosecutors' cases in these early negotiation stages of a criminal case is worthy of examination. The decision-making process of the prosecutor cannot occur in isolation from the defense attorney, because negotiation and bargaining are the primary tools used in this process. It is essential for prosecutors to preserve close relationships with defense attorneys in order to make decisions about how to dispose of a case together (Cole, 1984). There are many factors that influence prosecutors' decisions to negotiate a plea and often this requires prosecutors to perform different roles (Alschuler, 1968). As administrators, prosecutors must be concerned with the quick disposition of cases and the efficiency that may be necessary to move a case forward (Alschuler, 1968; Hessick & Saujani, 2002). In fact, scholars argue that one of the most important motivations for prosecutors to engage in the plea bargaining process is the desire to enhance the efficiency of the system (Hessick & Saujani, 2002). Alternatively, prosecutors may behave as advocates who want to maximize convictions and sentence severity. Thus they may make plea bargaining decisions based on the possible sentence after a conviction at trial compared with an acquittal, and thereby establish a sentence for negotiating somewhere in between (Alschuler, 1968). In this role as advocate, it would appear that evidence would play a significant role in how a prosecutor makes this decision and interacts with a defense attorney.

In order for a prosecutor to engage in the negotiation process with a defense attorney it is necessary for the prosecutor to demonstrate the existence and strength of the evidence in order to affect a potential plea negotiation. According to Hessick and Saujani (2002), "Evidence the prosecutor has against the defendant is instrumental in his decision whether or not to pursue a prosecution or to enter a plea-bargain" (p. 196). The prosecutor can use evidence that he or she has at the beginning of a case as leverage with the defense attorney to persuade the attorney and the defendant to engage in a plea negotiation (Alschuler, 1968). Importantly, the prosecutor may use evidence that may not be admissible in court in order to determine how to approach the case and whether a plea bargain is most appropriate (Hessick & Saujani, 2002). Expert evidence, regardless of whether it will be admitted as expert by the judge, could play a role in the prosecutors' decision-making process when engaging in interaction with the defense attorney. If the evidence is weak, the prosecutor will have less influence over the bargaining decision because the chances of the defendant being convicted would be small, so the negotiation would produce a shorter sentence (Hollander-Blumoff, 1997; Hessick & Saujani, 2002). On the other hand, strong evidence could persuade a defense attorney and defendant to enter into a plea so as to avoid the risk of a trial and a longer sentence (Alschuler, 1968; Hollander-Blumoff, 1997; Hessick & Saujani, 2002).

The prosecutors' interactions with defense attorneys regarding expert evidence are a crucial interaction in the early stages of a case. Regardless of whether or not the evidence is considered strong, it is the defense attorneys' perception of the evidence that is critical (Hessick & Saujani, 2002). Thus, the interaction between the prosecutor and defense attorney relies on the way that the prosecutor frames the evidence. Given that the

prosecutor has the most power in this interaction, it appears that it may be more important how the prosecutor frames the evidence in this interaction, rather than the evidence itself. Expert evidence, therefore, may be used early on in the plea bargaining process so that prosecutors can persuade defense attorneys and defendants to engage in a plea negotiation. Early communications with defense attorneys occur during the discovery process. Based on the rules of discovery, prosecutors must disclose any and all evidence (including exculpatory evidence) that they have to the defense attorney. It is during this discovery process that prosecutors and defense attorneys will communicate about the relevant evidence, including all scientific evidence of which the prosecutor is aware.

Judges: Admissibility of evidence

While prosecutors generally have seemingly unlimited discretion regarding the decision to charge a suspect (Krug, 2002; Ossei-Owusu, 2010), the discretion of a prosecutor is somewhat limited regarding the admissibility of expert evidence. Judges play possibly the most important role regarding the admissibility of expert testimony. It is ultimately the decision of the judge whether or not scientific evidence presented in expert testimony will be admitted (Burns, 2008). Judges are the ultimate authority in the courtroom throughout this process, acting as gatekeepers. Prosecutors could rely on evidence presented by experts to persuade the fact-finder as to the guilt of the defendant. Thus, it is necessary for prosecutors to strategize and prepare for the presentation of this information to the judge to ensure he or she will allow the evidence to be admitted. Following the rules of evidence, a judge would have to establish that the evidence is based on valid and reliable scientific analysis.

A judge's responsibility regarding expert testimony was not always as well

defined or as rigorous as it is today. The Federal Rule of Evidence (FRE) 702 establishes the widely-used standard for expert testimony in the courtroom and guides prosecutors in their decision-making regarding attempting to persuade the judge to admit expert testimony. The Federal Rule of Evidence 702 states that:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case (FRE 702).

Many jurisdictions have implemented the language of the Federal Rules of Evidence and thus this language, in whole or in part, has been adopted by 40 states in their own courts' rules of evidence (Rogers, 1998). Michigan is one of the states that adopted this rule (Michigan Rules of Evidence 702). It is the judge's decision to determine if the witness will be admitted as an expert based on this rule and U.S. Supreme Court precedents. Prosecutors are required to follow the rules and standards set forth by the court. Thus, with respect to experts' presentation of evidence, important discretionary decisions are made by judges in order for this evidence to be presented in court. This does not mean that prosecutors lack all discretion regarding selecting and presenting expert evidence, but they must do so while recognizing that the judge has control over what testimony and other evidence are admitted as expert. Prosecutors' consideration and anticipation of judges' decisions in this regard presumably affect how expert evidence is framed and

presented yet this subject has not been the focus of previous studies. In addition to FRE 702, several U.S. Supreme Court decisions have helped to establish the role of a judge regarding expert testimony, and a great deal of literature has analyzed these decisions to determine how judges are expected to manage experts in the courtroom.

The first case to establish criteria for expert testimony was *Frye v. United States* (1923). The resulting standard, often referred to as the *Frye* test or the general acceptance test, simply stated that a judge could admit expert testimony when the scientific technique that the evidence was based upon had obtained acceptance in the scientific community of that specific field of study (Sanders, Diamond, & Vidmar, 2002). The *Frye* test created the potential to admit a considerable amount of testimony from all different fields of study that may or may not have been useful for the decision makers in the courtroom.

It took 70 years for the U.S. Supreme Court to address this issue again. The decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993) ruled that scientific testimony could only be admitted if the judge made the determination that the testimony used the methods and procedures of science (Kovera & McAuliff, 2000). More specifically, the court ruled that in order to qualify as scientific knowledge, "an inference or assertion must be derived by the scientific method and must be supported by appropriate validation" (*Daubert v. Merrell Dow Pharmaceuticals, Inc.*, at 595). The ruling in *Daubert*, explicitly requires that judges must act as gatekeepers of expert knowledge that could potentially be presented in court and must do so by evaluating the validity and reliability of the testimony (Gatowski, Dobbin, Richardson, Ginsburg, Merlino, & Dahir, 2001). Two more cases followed to refine and clarify the decision in

Daubert. The first was *General Electric Company v. Joiner* in 1997. This case established that judges' decision-making authority about evidence should be liberally construed, such that a judge's decision on admissibility can only be reversed if it is obviously flawed (Sanders et al., 2002). This case also extended the rules and standards concerning the use of expert testimony to engineers and other non-scientist experts (Gatowski et al., 2001). Finally, in *Kumho Tire Co. v. Carmichael* in 1999, the U.S. Supreme Court further strengthened the discretion of judges by allowing them to have broad latitude in determining the reliability and validity of non-scientific expert knowledge (Gatowski et al., 2001). Both of these cases work to reinforce the fundamentally subjective nature of the trial court judge's role as gatekeeper. Although judges are not experts in the many and varied scientific fields that might be represented by expert witnesses in court, the *Daubert* decision has created a situation in which judges need to become more educated and knowledgeable about scientific standards (Kovera and McAuliff, 2000). Along with FRE 702, the *Daubert* ruling maintains that to admit expert evidence, the evidence "must be relevant to a material fact at issue in the case at hand to be admissible" (Kovera & McAuliff, 2000, p. 574). There is concern among commentators about the limits of judges' knowledge of science and their ability to apply these standards to the evidence proffered by prosecutors. Judges may lack the scientific knowledge that is necessary to apply the standards of *Daubert* (Gatowski, et al., 2001). If judges lack the knowledge about scientific standards, they may rely on the presentation of information by attorneys in order to make their final decisions about what to admit (or not admit) into evidence. As a result, prosecutors' strategies for framing and presenting the nature of expert evidence may be especially important in educating and persuading

judges about the admissibility of expert evidence.

Both the *Frye* and *Daubert* standards are important to analyze; although federal courts have exclusively relied on *Daubert* since the U.S. Supreme Court decision, some state courts still follow the *Frye* standard (Kovera & McAuliff, 2000). In 2004, Michigan adopted both FRE 702 as well as *Daubert* standards for addressing scientific evidence, making Michigan consistent with the federal courts (Longhofer, 2004). The ruling in the *Daubert* case embodied a rational skepticism of expert testimony. The Court was concerned with junk science being allowed into the courtroom and did not want to give unregulated legitimacy to experts who claimed to have specialized knowledge (Sanders et al., 2002). The fear was that experts might provide substandard, spurious, or even fraudulent testimony, which could nevertheless have substantial impacts on the decision making of jurors (Hagen, 1997). Judges and courts are concerned that lay jurors will not be able to effectively evaluate the testimony, and as a result, may overemphasize the importance of questionable evidence presented based on science (Hagen, 1997).

It is important to understand the Supreme Court's responses to expert testimony in order to analyze how courtroom actors prepare this type of evidence for judges. The judge has ultimate (and seemingly unlimited) discretion about what expert information is legitimate enough to be provided to the court. Thus the actions and decisions of the others in the courtroom (both lawyers and jurors) depend on the discretion of the judge. Conversely, the judge must rely on the attorneys and the expert witnesses to present the testimony in a way that demonstrates how the evidence will meet the *Daubert* standard of validity and reliability. The process of establishing admissibility is necessary for a prosecutor who is concerned about getting evidence admitted that will ultimately

persuade jury members who are not necessarily knowledgeable about scientific evidence. Since jurors can be significantly influenced by expert testimony, the ability of a prosecutor to have a judge admit the evidence is important. After the prosecutor successfully gets the expert evidence admitted, he or she has to shift focus and determine how to present the expert and his or her testimony to the jury.

Evidence and the influence on juror decision-making

For cases that go to a jury trial, juror decision-making is the ultimate concern for prosecutors. Thus the way that prosecutors present evidence to the jury will affect whether the evidence is perceived as credible and thus influence the verdict. The specific influence of experts on the jury will be discussed in more detail, however it is first important to point out two areas of research that provide insights into the interactions between prosecutors and jurors. It is important to note that although this project is ultimately concerned with pretrial processes, the preparation process in which prosecutors engage will ultimately affect trials and juries, so a brief review of the relevant literature is addressed here.

Several studies have addressed the concept of the "CSI effect", which relates to jurors' television viewing habits and the influence that this exerts on jurors' decision to acquit a defendant. Prosecutors may be concerned with this purported effect, because it may dictate which experts the prosecutor will select or how expert information can best be presented to the jury in order for the prosecutor to gain a conviction. Another area of research that can provide insight into the interactions between the prosecutor and the jury is the Story Model, which was advanced by psychological research that demonstrates the way jurors perceive and integrate evidence in their decision making process. Although

this model is solely focused on how jurors perceive and organize evidence during trial, understanding this model can provide insight into how prosecutors prepare to present evidence to jurors.

CSI effect. Popular television crime shows have proliferated and captured people's attention. Shows like *CSI* (among others) have focused their attention on the forensic science of criminal cases, often using techniques that may not exist in reality, or that solve crimes quickly and with ease (Schweitzer & Saks, 2007). In response to these types of crime shows, legal scholars as well as the media have used the term, the "CSI effect" to speculate about the influence of these types of shows on juror decision-making (Tyler, 2006; Watkins, 2004). Specifically, the "CSI effect" is the purported phenomenon that jurors are influenced by these shows, thereby resulting in jurors expecting scientific evidence at trial (Tyler, 2006; Watkins, 2004). Thus, if prosecutors perceive the CSI effect to be real, they may be concerned that if a case lacks scientific evidence, jurors will be more likely to acquit a defendant even if there is other evidence that demonstrates guilt (Shelton, Kim, & Barak, 2006).

Results of studies on the "CSI effect" are mixed, such that, it is not clear that the effect would only pose a disadvantage for the prosecution (Schweitzer & Saks, 2007). Given that there are few empirical studies assessing this effect, a conclusion about whether or not there is a demonstrated effect cannot be determined (Tyler, 2006). However, Shelton, et al. (2006) found that jurors expect that some scientific evidence will be presented by prosecutors. Yet, it may be the case that these increased demands could be due to much broader influences and reflect more of a "tech effect" rather than a much narrower "CSI effect" (Shelton, et al., 2006). The "tech effect" refers to the notion that

jurors are not simply influenced by television programming, but more broadly are impacted by advances in technology; there is a shift in popular culture because of these advances that ultimately affects jurors' expectations (Shelton et al., 2006). Although the results of much of the literature may be inconclusive, the research raises the possibility that the perceived "CSI effect" may have an effect on prosecutors' strategies.

Some research indicates that prosecutors and other legal actors are changing their behavior based on anecdotal evidence that the "CSI effect" does exist. A study conducted in Maricopa County, Arizona stated that 74% of prosecutors believed that they had been involved in a case for which jurors had high expectations for scientific evidence (Thomas, 2006). In fact, the belief in the "CSI effect" forced prosecutors in Maricopa County to attempt strategies aimed at curbing this effect through voir dire questions and the presentation of evidence (Thomas, 2006). Whether the "CSI effect" exists, or if it is a broader notion of a "tech effect" (Shelton et al., 2006), prosecutors in some locales are changing their behavior to counter the possibility of such an effect (Thomas, 2006). Thus, research about these effects indicates that prosecutors may strategically approach scientific expert evidence differently than other types of evidence in light of their perceptions about contemporary jurors' expectations.

Story model. Jurors are often provided with many different types of evidence during trial. The way that jurors understand this evidence is crucial to their decision-making processes for ultimately producing the verdict in a case. Several models have been explored regarding how jurors use evidence to come to a decision. For example, applying the heuristic-systematic model to jurors helps to explain how jurors rely on simple decision rules or heuristics to aid in their decision-making (Chaiken, Liberman, & Eagly, 1989).

Another model, called the elaboration likelihood model, indicates that jurors may contemplate information differently depending on the complexity of the evidence (Petty & Cacioppo, 1986). These models are useful as a source of explanations for jury decision-making behavior. However, in order to understand how juror decision-making could impact the way prosecutors prepare to present information to a jury, a third model must be examined.

The story model is the most widely used model to explain juror decision-making (Devine, Clayton, Dunford, Seying, & Pryce, 2001). The model is an explanatory decision-making model that addresses the ways in which jurors contemplate and organize all of the evidence during trial. Formulated by Pennington and Hastie (1992), the story model describes how the evaluation of the various forms of evidence presented during a trial is guided by a cognitive representation or schema that integrates the facts presented to them into a coherent story. In effect, jurors actively process information and evidence as they hear it during trial, but instead of taking each piece of evidence by itself, jurors shape the evidence together to form a story (Devine et al., 2001; Pennington & Hastie, 1992). Each juror may approach his or her story slightly differently, because the individual story is influenced by jurors' preconceptions and knowledge about the world (Pennington & Hastie, 1992).

> In overview, the Story Model includes the following three components: (a) evidence evaluation through story construction, (b) representation of the decision alternatives by learning verdict category attributes, and (c) reaching a decision through the classification of the story into the best-fitting verdict category (Pennington & Hastie, 1992, p. 190).

If jurors contemplate evidence by integrating it into a story, prosecutors can influence the jury by contributing to that story. This directly connects to the way in which the evidence (including expert evidence) and its presentation are prepared by the prosecutor and ultimately understood by jurors. In order to analyze how prosecutors prepare evidence to present to jurors, it is essential to examine this preparation in the context of the story model that has been proven to play a role in juror decision-making.

While the expert witness is not described in the literature as a member of the courtroom workgroup, there exists the possibility that specific experts, such as scientists from state crime laboratories, interact with prosecutors and judges so frequently that they effectively become guided by the routines and familiar expectations of the workgroup members. By contrast, jurors are never part of the courtroom workgroup and therefore may have different expectations regarding their assessment of expert witnesses. Although research focusing on prosecutors and experts is lacking, a number of studies have explored the interactions between jurors, scientific evidence and experts. These studies demonstrate the influence of this expert testimony on jurors' ultimate decisions in a case.

Importance of expert testimony

It is necessary to assess the importance of expert witness testimony in order to clearly demonstrate how and why prosecutors strategize about how best to utilize experts. Prosecutors utilize all available admissible evidence that will help their case. In particular, the testimony that emerges in the exchange between a prosecutor and a witness is often most persuasive in the courtroom (Tanay, 2010). Relative to the presentations by various categories of witnesses, the testimony of expert witnesses is potentially quite invaluable and influential. This type of evidence is important in cases where a prosecutor

requires a way to provide the fact-finder with information that other evidence does not address (e.g. DNA evidence, psychological testing, the probability of a ballistics match, etc.). Prosecutors must be concerned with how to effectively utilize experts in a way that influences the decision making of the trier of fact (Tanay, 2010). The first step in this process is for a prosecutor to recognize the role that both scientific evidence and an expert will play in the courtroom. The witness' ability to succeed in this type of setting by convincingly expressing her or his expertise largely relies on the prosecutor's control over the interaction. As noted by Tanay (2010, p. 38), "An attorney's scrutiny of an expert should focus upon the expert's capacity to function in the courtroom." The testimony of the expert is not a performance that the witness engages in on his or her own. Instead, it is an interaction that occurs between the prosecutor, the defense attorney, and the expert through the process of posing questions intended to elicit desired answers in open court (Tanay, 2010).

Expert testimony has become an important and influential component of many civil and criminal trials throughout the U.S. as it is used quite frequently and in a greater variety of cases than in prior decades (Sanders, Diamond, & Vidmar, 2002). Expert testimony involves outsiders entering the legal realm in order to provide the court with information that other courtroom actors cannot provide. Experts have a distinct purpose in the courtroom and hold specialized knowledge not possessed by anyone else in the court. Witnesses that are deemed experts are used in many different types of cases, ranging from personal injury to rape or murder (Vidmar & Diamond, 2001). Given the diversity of its uses in these settings, expert testimony can have a wide-ranging effect on court proceedings, particularly the decision-making processes of fact-finders. The

purpose of using experts in trials is either to present facts or opinions about facts presented in the case. An expert can also be used to educate jurors and judges about matters within the realm of his or her specialization (Sales & Shuman, 2005).

Expert testimony is a unique type of testimony because witness testimony is generally confined to statements of concrete facts that the witness has observed, or has knowledge about; things he or she has personally seen, heard, tasted, smelled, or felt (Vidmar & Schuller, 1989). Unlike the testimony presented by a non-expert witness that is restricted to facts perceived by the witness using his or her own senses, the expert witness can present opinions, inferences, impressions, and conclusions drawn from the facts (Champagne, Shuman, & Whitaker, 1992). Thus, experts have the ability to report about behavior not involving the people in the case, and they are permitted to give opinions and derive their testimony from methods used by those in the expert's field (Golding, 1992).

Expert testimony has the potential to significantly influence decision-making processes in many different types of cases, as there is a range of different types of testimony presented by experts at trial. The expert witnesses most frequently called to testify are physicians and, in civil cases, economists. In recent decades, psychologists and psychiatrists have been called to testify based on their expertise about a particular individual, most often a criminal defendant, and their evaluation of that person (Goodman-Delahunty, 1997). While expert testimony in general has been admitted into courtrooms for many years, expert psychological testimony (and other social science testimony) is often viewed as much more controversial than expert evidence based on chemical or biological testing in a laboratory. Some critics consider the methodology of

clinical (mental health) testimony as problematic based on concerns about the validity and reliability of this type of testimony (Redding, Floyd, & Hawk, 2001). Psychiatrists and psychologists have long testified about defendants' states of mind regarding competency or insanity, but it was not until the middle of the 1970s when courts began to allow testimony from psychologists and other social scientists about "social framework" evidence (Vidmar & Diamond, 2001). This type of evidence often includes testimony about "battered woman syndrome" in domestic violence cases, eyewitness reliability, the long- and short-term impacts of being the victim of rape or childhood sexual abuse, as well as the manifestations of other post-traumatic stress disorders (Vidmar & Diamond, 2001). This testimony is unlike testimony about a defendant's mental state because it is based on findings from general research rather than an evaluation of the defendant; there is only the broadest (theorized) connection to the parties in the case as representatives of a previously studied population (Vidmar & Diamond, 2001). Using social framework evidence, experts testify about the findings of scientific studies that shed light on issues relevant to the case. The use of social framework evidence has increased dramatically in recent decades. This can be attributed partly to the increasing interest of social scientists in topics that fall under the purview of the courts, and partly to changes that have occurred regarding the type of expert evidence that is considered admissible in court (Costanzo, Krauss, & Pezdek, 2007).

Influence of experts on jurors. There are a number of studies that demonstrate that jurors are influenced by expert testimony presented at trial. However, this literature either focuses on the outcome (jury decision-making), or the process of the expert testimony from the expert's point of view. The major issue addressed in this study is the role

prosecutors play in utilizing expert information, and specifically, what strategies they engage in during the pretrial phases of a case. However, it is important to address the literature on the impact of experts on juries to demonstrate the importance of this type of evidence. If, as demonstrated by the literature, experts have significant influence on juror decision-making, then prosecutors may focus their preparation on how to convey the expert testimony in an influential manner. Ultimately, expert witnesses do not have unrestricted control about what information they provide to the jury, because the attorneys are those who are preparing for the interaction in court and directing the experts' responses by asking questions.

Studies have shown that jurors are significantly affected by expert testimony (Vidmar & Diamond, 2001). As a result, and perhaps not surprisingly, there is some concern and skepticism among the various members of the courtroom workgroup about the use of some types of expert evidence in court (Redding, et al., 2001). Specifically, some skeptics are concerned with the method of clinical mental health testimony regarding the psychological determinations of a defendant (Redding, et al., 2001). However, research has indicated, particularly with mental health expert testimony, that judges and prosecutors recognize the value of this evidence in assisting jurors (Redding, et al., 2001). As a result, in recent decades, there has been an increase in social psychological research focusing on jurors in an attempt to understand the ways that jurors are influenced. In doing so, researchers have utilized many different methodologies including post-trial interviews with jurors, case studies, and experimental mock jury simulations (Devine, et al., 2001). The research has been broad enough to include many of the different types of expert evidence that can be utilized in a variety of cases.

It is necessary to demonstrate the value of expert testimony, how this is different from other types of testimony, and the impact on jurors. If previous literature can demonstrate that this specific type of evidence plays an influential role in juror decision-making, then it would seem that the courtroom workgroup members would value this type of evidence. As the key member of the workgroup responsible for fulfilling the burden of proof, prosecutors must strategize about how to accomplish all of their different responsibilities regarding preparing expert evidence as well as presenting this evidence to different audiences (defense, judge, jury). The following review will present the research that has shown a significant impact of expert testimony on jury behavior as well as the factors that are associated with the jury's decision-making processes.

A series of studies by Champagne, Shuman, and Whitaker (1992, 1994, 1996) address the issue of the impact of expert testimony on jury members in a civil context. Civil and criminal cases differ in substantial ways. Civil attorneys generally have more resources to hire experts, and thus may use experts more often (Sales & Shuman, 2005; Memon & Shuman, 1998). The ultimate decision in civil cases typically results in money being paid to the winning party, but in criminal cases the result is directly related to the freedom of the defendant as well as other sanctions and stigma associated with a criminal conviction. This difference in the outcomes of civil and criminal cases could have an effect on how jurors contemplate and utilize expert information. It is important to note that the following research used civil juries, but also that the results can shed light on juror decision-making in a way that may be applied to criminal cases. There is a lack of research on expert testimony and its influence on criminal juries. Prosecutors function

differently in the criminal courts due to the organizational context of the criminal court system (Eisenstein et al., 1977), and thus expert evidence may be approached differently.

Champagne, Shuman, and Whitaker (1992, 1994, 1996) indicate that the fact-finder in the case, whether it was judges or jurors, found expert testimony to be useful to them in deciding cases. In these studies, several characteristics were found to impact jury decision-making and the jurors' analysis of whether the expert was considered credible. In their research, Champagne et al. reported that 36% of jurors stated that when the expert is able to convey information in a non-technical manner, he or she is more credible (Champagne, Shuman, & Whitaker, 1992). This is corroborated by research in the field of persuasion, which states that when presented with information that is not extremely complex, jurors tend to use central processing, where they carefully scrutinize the message and examine the quality of the arguments (Petty & Cacioppo, 1986). According to the elaboration likelihood model, when technical jargon, specialized language and knowledge is used and the information is too complex, jurors may become confused and, as a result, may feel excluded by the expert's language (Petty & Cacioppo, 1986). If this happens, they may resort to using peripheral processing, or mental short cuts, focusing on superficial characteristics of the expert witness, such as his or her appearance, personality, gender, or race rather than what he or she is saying (Petty & Cacioppo, 1986). In these situations, Cooper, Bennet, and Sukel (1996) explain that jurors may lack the motivation to pay attention to the expert's message, because the message is deemed irrelevant, so jurors' ability to process the message is impaired or simply not present. When this happens, jurors revert to less effortful processing. This is a real risk since expert testimony can often be complex. However, this is a double-edged sword. When

expert scientific testimony is more readily understandable, it appears jurors are less impressed with it. In particular, jurors seem to approach scientific evidence presented by social scientists with skepticism (Shuman, Champagne, & Whitaker, 1994).

In the Champagne, Shuman, and Whitaker study (1992), superficial characteristics of an expert witness were relatively unimportant with only 11% of the sample. The majority of the participants stated that the appearance, personality, gender, race, etc. of an expert contributed to their assessment of that expert's credibility. According to the study, about one-third of jurors (31%) also valued experts who were willing to make conclusions about the case or the part of the case for which they were providing testimony (Champagne, Shuman, & Whitaker, 1992). Slightly fewer jurors (25%) focused on the expert's credentials and reputation as the important factors in determining credibility. Further research by these same researchers indicated slightly different findings, which show that qualifications, familiarity with the case, good reasoning, and impartiality function to contribute to the credibility of the expert (Shuman, Champagne, & Whitaker, 1994). Finally, in another study conducted by the same authors, they found that although credentials of the expert are important to the jurors, their communication skills, clarity of presentation, and willingness to draw firm conclusions are much more important (Champagne, Shuman, & Whitaker, 1996). This series of studies indicates the characteristics that influence jurors regarding expert testimony. However, it is essential to note that two of these studies by Champagne, Shuman, & Whitaker utilized civil juries.

This research is important in the context of this study because it will be useful to assess whether prosecutors are aware of the types of characteristics of an expert that are

especially influential to juror decision making. If prosecutors are aware or knowledgeable about how jurors process this information, it could influence the ways prosecutors prepare evidence and experts. Many of these studies focused on civil attorneys and jurors, which demonstrates that there is a lack of research applying these concepts to the criminal courts.

A study conducted by Kutnjak Ivkovich and Hans (2003) used qualitative interviews to gain a more in-depth understanding of the factors that are important to actual jurors in civil cases for determining the credibility of experts. Again, this study focused on jurors in civil cases, which are qualitatively different from jurors in criminal cases. However, this study helps to enhance the understanding of jurors and expert evidence and will be examined in order to provide a basis for understanding how prosecutors may approach jurors and expert evidence in criminal court. The authors found that many jurors attempt to critically evaluate the content of the testimony that is presented and the jurors tried to determine if the evidence was flawed based on their own experiences (Kutnjak Ivkovich & Hans, 2003). This research indicates that jurors begin the trial process very skeptical of experts. When experts explained parts of the case in more detail, jurors found them to be more credible. These findings align with prior research indicating that clarity of the presentation as well as use of lay terms to express more technical testimony is important. Jurors tended to evaluate experts on the basis of credentials, motives, general impressions, as well as the content and presentation of the testimony (Kutnjak Ivkovich & Hans, 2003). The importance of each dimension varied from juror to juror and expert to expert.

The jurors also offered their views on what constituted good and bad expert witnesses (Kutnjak Ivkovich & Hans, 2003). Good expert witnesses were described as good teachers with sound credentials and acceptable motives for offering their testimony. There was less agreement among jurors about how to characterize a bad expert. To make this determination, most jurors indicated that they relied on their own personal experiences. Overall, this study made it apparent that jurors focus on more than just personal characteristics of experts as has been suggested by previous research. Jurors look at both the messenger (credentials, motives, and general impressions) and message (content and style of testimony) to determine the credibility of testimony (Kutnjak Ivkovich & Hans, 2003).

Another issue that has been studied is the "hired gun" effect. In this context, a hired gun is an expert who testifies frequently and receives significant compensation. Although prosecutors may have limited opportunity and discretion in choosing an expert, jurors can perceive experts as hired guns, even if they are not (Giannelli & McMunigal, 2007). Jurors often attribute less credibility to these hired- gun experts because they believe that the expert will say anything if paid to do so. According to Kutnjak Ivkovich and Hans (2003), jurors were more skeptical of experts who were paid for their service; they were found to be less trustworthy and credible. Other research suggests a more complex process lies behind jurors' rejection of hired guns. When expert witnesses were paid a significant amount of money and had well-established credentials, jurors found them less credible, likable, or effective in influencing jurors' decisions (Cooper & Neuhaus, 2000). However, if the expert had only modest credentials and received excessive payment, experts were seen as more credible and trustworthy (Cooper &

Neuhaus, 2000). These apparently counter-intuitive findings suggest there may be some more complex issues underlying jurors' assessments of expert witnesses, which have yet to be fully understood.

These studies are important for multiple reasons. First, they indicate that focusing on qualitative methodological techniques can provide unique insights into how jurors contemplate information presented by expert witnesses. In parallel fashion, gathering in-depth accounts should be helpful for understanding prosecutors' strategies. Second, these studies address the influential effect of expert witnesses on juror decision-making. Finally, these studies delve into the civil court realm and do not specifically address prosecutors in a criminal court context. Given the organizational differences between prosecutors and civil court attorneys, the studies provide a limited focus of the issue. This study will fill in the gaps in the literature that focuses on civil attorneys and attempt to provide detailed information about these same types of issues with respect to prosecutors in the criminal court context.

Prosecutors and experts. Although there has been significant research dealing with expert testimony there are clear gaps that exist in the literature. It is clear that jurors in a criminal jury trial ultimately make the decision about whether to find a defendant guilty or not guilty. Therefore it is important and necessary for scholars to be aware of how experts are going to impact those decisions. However, if this were the only focus then researchers would be ignoring the process by which that expert testimony comes into the courtroom and is presented to jurors. This is accomplished through attorneys and judges who are in control of the way in which expert testimony enters into the courtroom and how that testimony is given. While judges are able to decide whether to admit expert

testimony into the court, it is the attorneys who make use of experts that have ultimate control over the experts that they select. This control is exercised through how they prepare, question and/or cross-examine the witnesses. Therefore, the impact of expert witnesses on jurors begins with the attorneys and judges at the trial court level. Although we have learned a great deal from research on jurors, there are some mixed results about the most important factors in juror decision making. The impact of expert testimony on jurors may have more to do with the way in which the information is presented to them rather than the content of the information. Therefore, it is necessary to look at the actual messengers of the expert information, which are the attorneys. The role of the prosecutor in the criminal courtroom is to utilize all effective means of building a case against the defendant. Often, this includes the use of expert testimony to analyze evidence at the crime scene, or to combat expert testimony provided by the defense regarding mental health. When prosecutors determine that they are going to use an expert, they must make decisions about who to select, and how to present the testimony at trial (Giannelli & McMunigal, 2007). In order to understand how prosecutors select and analyze expert testimony, it is necessary to briefly address the context in which they function. A criminal trial involves opposing parties who attempt to persuade the judge or jury that their version of events about criminal matter is correct through the presentation of testimony and other evidence. Thus, the trial may be viewed as an arena for persuasion.

From an adversarial perspective, it is the role of the prosecutor and the defense attorney rather than the judge to select witnesses to testify about their expert knowledge (Saks, 1990). In the adversarial system, lawyers are going to select experts that will beneficial for their side (Saks, 1990). The side calling the witness wants the expert's help

in winning the case (Saks, 1990), because it is each lawyers' legal and ethical responsibility to select and present testimony that will reinforce their views of the facts to help their client (Sales & Shuman, 2005). This is one of the many reasons that issues regarding expert testimony are controversial; with limited judicial oversight, lawyers are able to choose anyone that they want to be admitted as expert, so these experts may be partisan, and often are paid very well for their services (Sales & Shuman, 2005).

The relationship between prosecutors and experts is very different than the relationship between judges and experts. As discussed above, judges act as gatekeepers, and therefore have a relationship in which they decide whether or not to allow the expert to present his or her knowledge. This indicates a specific power differential in their relationship where the expert must defer to the judge because judges have the authority to determine if the expert knowledge is significant and relevant to the case. On the other hand, prosecutors and defense attorneys actively seek out the expert's knowledge that they believe will support their case. However, although attorneys rely on experts more than judges do, after the attorney selects an expert, he or she obtains the power to control how that expert's knowledge will be presented to the jury. Their role in this process is therefore to select an expert that will provide the court with the "truth" from the attorney's perspective, which can then be communicated to the jury with the hopes that they will agree with the expert's version of the truth.

Experts are not supposed to be advocates. Instead they are supposed to be witnesses with expert knowledge that others in the courtroom do not have, so that they are providing a service. However, the process by which experts are selected, retained, and prepared for trial inevitably socializes them into feeling that they are members of the

adversarial team (Saks, 1990). Lawyers directly outline questions the expert should answer rather than indicating that the expert should provide any and all knowledge that he or she has about the issue at hand. This can create a significant problem for experts because they are not truly asked to "tell the whole truth and nothing but the truth." Rather they are asked to answer the questions presented to them without including information that they may have but should not divulge (Saks & Lanyon, 2007). The adversarial system has an expectation that lawyers will present their witnesses' testimony in the most favorable light for their desired outcome (Shuman, Whitaker, & Champagne, 1994). The result of the adversarial process cannot be said to be objective truth, because witnesses provide information to best of their knowledge and ability, and thus this information is inherently selective, perspectival, and limited (Sales & Shuman, 2005).

Though very little empirical research has addressed how prosecutors prepare and present expert witnesses, a study on lawyers' interactions with experts was conducted in 1994 (Shuman, et al., 1994). Although now dated, this study directly surveyed civil lawyers and judges about their thoughts and expectations about experts. The study was conducted in Baltimore, Seattle, and Tucson. Between these three sites, a total of 131 cases were identified where experts had been used, and from those specific cases, at total of 215 lawyers were surveyed, only 65 of who responded (Shuman et al., 1994). According to the study, 42% of lawyers acknowledged that they believed that experts would advocate for them, and 65% believed that the expert would be willing to be biased in favor of their opinion (Shuman et al., 1994). These relatively high proportions indicate that civil attorneys may see experts as advocates, rather than impartial witnesses, and also raises the possibility that experts may be willing to consciously shape and regulate how

scientific evidence is presented to a jury. Indeed, the desirability of an expert showing receptiveness to a lawyer's version of the truth may be indicated by the 43% of respondents who indicated they spent time "shopping around" for experts by interviewing many before deciding which one to take to trial. Shuman et al. (1994) found that the characteristics most important for lawyers when deciding who to select as an expert witness are whether experts rely on the advice of other lawyers and whether they rely on personal contacts with other experts (professional networks, friends, etc.). About a quarter of the lawyers surveyed indicated they rely on advice from the professional field from which they are choosing an expert. According to the study, other important characteristics considered by lawyers when hiring an expert witness are the qualifications and expertise of the expert. Additionally, lawyers believe that appearance, honesty, and knowledge of the subject matter are also very important (Shuman et al., 1994). The relevance of the particular study is that it is one of the few works of academic literature that seeks to understand expert witness testimony from a lawyer's perspective. Although the Shuman et al. study focuses on civil attorneys and does not specifically address prosecutors, it provides a basis of understanding some of the concerns of attorneys and judges regarding expert witnesses.

There appears to be conflicting information about civil lawyers in their quest to include expert testimony in their cases. It is evident that civil lawyers spend a considerable amount of time selecting the experts they will use at trial. The findings of Shuman et al. (1994) indicate that almost half of their respondents interviewed many experts from the field before choosing one to hire. Attorneys maintain that after *Daubert* was established, they increased the level of scrutiny when selecting experts by examining

the credentials more closely. This may explain the process of "shopping around" (Krafka, Dunn, Treadway Johnson, Cecil, & Miletich, 2002). The notion that an attorney is actively looking for an expert with reputable credentials provides a counterpoint to the idea that lawyers are just seeking experts who will say what they want them to say at trial. Instead, lawyers may be consciously aware of the standards in place set forth by *Daubert* and are more concerned with providing expert evidence that will be admitted by a judge. Attorneys have noted that there are significant problems with partisan experts (the so-called hired guns discussed above), so this scrutiny is necessary to gain access to a well-qualified expert (Krafka et al., 2002). However, lawyers have also maintained that one of their concerns is whether experts will abandon their objectivity and become advocates for the lawyers who hired them (Krafka et al., 2002). That is, on the one hand, it appears civil attorneys want experts to be objective and provide knowledge they have to the jury in a rigorous, scientifically neutral manner. On the other hand, these attorneys may also want advocates who will help the jury see the case from their point of view in order to help win the case (Burns, 2008).

This dichotomy may be due to the nature of the adversarial system itself. Although prosecutors would prefer a degree of objectivity from witnesses, this is not entirely possible in the context of a particular trial. Witnesses can only give information to the best of their knowledge and experts' testimony will inevitably contain some value judgments about what is the truth of the situation (Sales & Shuman, 2005). Since both prosecutors and defense attorneys can bring experts into court, this can often lead to a battle of experts, where the jury is required to weigh competing versions of the truth to make a determination of the facts. Other pragmatic limitations of the adversarial system

may also influence the use of experts. Another recurring issue regarding expert testimony is the cost of hiring experts. Prosecutors are constrained by limited resources, so the cost of hiring experts is a concern. As a result, there is some indication that prosecutors will select the most readily available expert or perhaps the one who offers the cheapest quote because of the temporal and financial pressures prosecutors encounter (Sales & Shuman, 2005).

After an expert has been selected, a prosecutor has considerable work to do prior to putting the expert on the witness stand. When experts were surveyed by Champagne, et al. (1992), they stated that the lawyer coached them about how their testimony should be presented, with over half of the experts stating that lawyers tend to urge them to be more conclusive in their testimony and less tentative. Lawyers frequently coach their experts (as they do with most witnesses) to present their opinions in the most favorable light. Many lawyers want personable, attractive experts who have integrity, are articulate, have strong credentials, are willing to be coached, and draw firm conclusions that support the lawyer's position. As a result, the most accomplished or objective experts in their fields are not often chosen. Experts are not passive in this process. A large majority (77%) of civil lawyers surveyed indicated that experts were willing to be coached (Champagne, et al. 1992).

Taken together, these studies indicate that lawyers exert control over how an expert presents his or her testimony. Experts do not passively sit on the witness stand and state any and all opinions they have about the case. Instead, experts are limited in their testimony by the lawyer's questions to determine how the information they can offer will be presented to the court. In this sense, it is helpful to think of the lawyer as the director

of the expert's performance for the court. This study seeks to understand this literature in the context of a prosecutor rather than a civil attorney. Perhaps similar findings will result, however the purpose of this research is to expand on these previous studies, which utilized civil attorneys, and determine if similar issues apply to prosecuting attorneys during the preparation of scientific evidence and expert witness. This leads into the theoretical framework, which focuses on the trial as a performance. This theoretical approach will provide a framework for understanding how prosecutors engage with expert witnesses and the courtroom in ways that demonstrate teamwork and impression management.

Selection of experts

Prosecutors exert significant discretion in many aspects of the criminal court process. It is important to remember that prosecutors may not have much control over which experts to select, particularly in routine criminal cases where specific police officers or state crime lab employees regularly testify (Giannelli & McMunigal, 2007). Other cases may be different: "However, if the results of scientific testing are likely to be contested, the prosecutor may become quite involved and exercise considerable power and control in the selection of an expert witness" (Giannelli & McMunigal, 2007, p. 1495). This indicates that there may be specific types of cases where prosecutors must "shop around" as they attempt to find an expert who will be able to provide evidence favorable to the prosecution. Sometimes, this selection process may be inappropriate because the prosecutor may want an expert to provide evidence that will agree with the prosecution's side, without analyzing the validity and reliability of the evidence (Giannelli & McMunigal, 2007). The selection of experts by prosecutors has a significant

purpose. Because the prosecutor is aware of the impact of experts on the jury, they may hire any experts who will be useful to get their point across to the jury (Saks, 1990). Prosecutors will likely choose an expert who will present the evidence in a way that fits with the state's version of the events. For instance, in a study of expert witnesses, Saks (1990) noted that prosecutors are more interested in utilizing local experts to testify about forensic science issues, rather than experts from the crime laboratory of the FBI, because local experts were more likely to agree with their side. This could mean that the expert will not be as impartial as jurors may expect him or her to be.

Research has demonstrated that civil attorneys engage in a selection process in order to obtain experts that will be favorable to their side even when the cost is significant (Murphy, 2000). Prosecutors may have fewer opportunities to choose among experts. Civil attorneys often have many more resources than prosecutors and therefore have more control over who is chosen as an expert. Attorneys in these cases may choose an expert based on how influential the expert will be to the jury and could consider superficial factors such as gender or race when going through the selection process (Memon & Shuman, 1998). Thus one important question for the study concerns the extent to which prosecutors actually are able to select expert witnesses and, if so, the factors that guide the selections that they make.

Experts in the courtroom

Much of the controversy that surrounds expert scientific testimony in the courtroom stems from this attempt to bridge two distinct discursive fields: scientists and legal actors who speak two different professional languages (Melton, Petrila, Poythress, & Slobogin, 1997). Although prosecutors utilize some experts on a regular basis in the

courtroom, some experts may not have as much familiarity with the court process. Even experienced expert witnesses may be difficult for prosecutors to utilize because the norms of science and law are quite different. Science is interested in fact-finding and theory-building activities, while law prioritizes the search for justice (Meyer, 1998). As a result, rather than simply acknowledging the accreditation procedures of academia, the court uses legal rules and standards to determine if an expert should be able to testify (Melton, et al., 1997). This can result in tension between science and law. Given this difficulty in bridging the fields of science and law, it falls to individual judges to determine whether an expert's scientific information should be admitted into the courtroom. However, it is the prosecutor who has the responsibility of facilitating this process by framing a witness' expertise in ways that the court can understand as part of the search for justice.

The scrutiny of expert testimony comes from many sources including the public, members of the courtroom workgroup and other legal professionals, and even from expert witnesses themselves, particularly mental health workers (Melton, et al., 1997). The concern about the potential problems with expert testimony is based on the notion that jurors, in particular, are influenced by expert testimony, thus the evaluation of expert evidence by jurors is crucial (Brekke, Enko, Clavet, and Seelau, 1991). Yet, in critics' eyes, many aspects of expert evidence raise questions about whether jurors can understand testimony and whether this evidence advances the truth-seeking process. Many of the criticisms concerning expert testimony stem from the fact that the adversarial system allows for the use of experts with extremely different and inconsistent views (Brekke et al., 1991). For example, when psychiatrists serving as opposing experts for prosecutors and defense attorneys present conflicting opinions about the mental state

of a criminal defendant, it raises questions about the reliability of the science that is presumed to underlie expert evidence. Additionally, experts who are paid well may create a problem for the court, which is interested in objective testimony, rather than testimony that was paid for and may be perceived as "hired-gun" evidence (Cooper & Neuhaus, 2000). Moreover, some critics argue that experts benefit the attorney with the most resources rather than serve a truth-seeking function. When both sides have the resources to create a battle of experts, this may confuse jurors (Brekke et al., 1991). Finally, there are criticisms surrounding the validity and reliability of certain types of evidence (Redding, et al., 2001).

While experts influence jurors' decisions, it is the other courtroom actors that have the ability to control and regulate the information that is presented to the jury. Judges and jurors may be influenced as much by the attorneys' interpretation as they are by the direct evidence provided by the expert (Diamond, Casper, Heiert, & Marshall, 1996). Prosecutors and other attorneys present their interpretation through the questions that they ask witnesses who are testifying as well as through their summation of the evidence for the judge and jury. An attorney can exert great influence by focusing on one or more points brought out in the expert witness' testimony (Diamond, et al., 1996). That is, the influence of an expert is mediated by how the prosecutor focuses judges' and jurors' attention to certain key points that the expert will address, or has already addressed, during testimony. Though judges act as gatekeepers, and make decisions about the admissibility of the testimony that is presented by an expert, prosecutors establish the framework within which a judge expresses his or her discretion by determining the selection and presentation of experts. Moreover, unlike many defense attorneys,

prosecutors are likely to have more resources to use in identifying and utilizing experts (Lynch, 2007). Prosecutors may also be more familiar with experts because of the regularity with which they interact with experts, such as those from a state crime lab, and are thus more likely to be informed and knowledgeable about how to strategically employ expert witness testimony to achieve their goals (Lynch, 2007). In addition, because the burden of proof falls on the prosecution, it is his or her duty to present the case to prove the defendant committed the crime, thus creating greater pressure on prosecutors to consider how expert evidence might be used.

Theoretical framework

Goffman's (1959) analysis of the presentation of self in everyday life can help explain how prosecutors prepare for trial as well as present experts in court. The focus of this research is to utilize Goffman's impression management and backstage processes to understand the way in which prosecutors' pretrial handling cases, including preparation of evidence and expert testimony for trial. Goffman's concept of impression management provides a focus for understanding how prosecutors establish and maintain impressions of other courtroom actors in ways that are compatible with the perceptions that they want to convey to their audience. More broadly, Goffman uses a dramaturgical approach, which is concerned with the mode of presentation by the actor or actors and how this affects the larger context (Goffman, 1959). According to Goffman (1959), people act in theatrical-like performances when interacting with others. Veering away from the idea that an individual might be perceived as a real or true self, Goffman asserts that the presentation of self is socially constructed and always done in context for particular audiences. Individuals make strategic decisions about how to present a contextually

defined ideal self so that others perceive the individual in a favorable light (Goffman, 1959). Importantly, this is not a one-sided process; other individuals interpret the actor's behavior. This interpretation must agree with the actor's intention, otherwise the actor is failing at the presentation or performance (Goffman, 1959).

People have many different reasons for presenting themselves in specific ways. Often, people attempt to present themselves in ways that others find desirable so that others will have a greater regard for them. However, this is just one among many possible motives. Whatever the reason for the behavior, it is in the interest of the presenter to have control over the behavior of other people in the situation:

> This control is achieved largely by influencing the definition of the situation which the others come to formulate and he can influence this definition by expressing himself in such a way as to give them the kind of impression that will lead them to act voluntarily in accordance with his own plan (Goffman, 1959, p. 4).

Applied in the context of prosecutors and expert witnesses, prosecutors are concerned with how other courtroom workgroup members (defense attorneys, judges) observe and evaluate the prosecutor. The courtroom workgroup is best understood by utilizing an organizational approach. The relationships between members of the courtroom workgroup have a direct influence on the disposal of a case (Einstein et al., 1977). When a prosecutor's presentation of self is successful, others will be more likely to be influenced by the prosecutor's actions. Similarly, to be successful in court, an expert witness must present himself or herself in a favorable way so as to appear more credible and trustworthy to the judge and jury. However, if we examine how prosecutors and

experts work cooperatively to manage impressions, rather than functioning individually, Goffman's concept of teamwork can be useful.

Goffman (1959) uses the concept of the team to illustrate the coordination of a group of individuals working together towards a single performance. Although each person in a team is concerned with his or her own performance, there is an understanding between the performers, which emerges as an agreement about the definition of the situation (Goffman, 1959). In the context of this study, I would argue that the prosecutor uses "stage talk" to develop a front for the expert. A front is described as "that part of the individual's performance which regularly functions in a general and fixed fashion to define the situation for those who observe the performance" (Goffman, 1959, p. 22). The prosecutor would provide the front for the expert, setting the stage for a proper performance. That is, the prosecutor frames environmental aspects of the expert's performance through his or her own established role in that environment. It is the role of the actor in a team to present a convincing front to the audience and this actor must be in control to communicate information effectively in order to appear believable (Goffman, 1959). Believability or credibility in the courtroom is imperative because the prosecutor is concerned with convincing the fact-finder that the state's interpretation of the facts is the correct one. In order to be perceived as credible by the audience, Goffman argues that actors employ both verbal and non-verbal indicators of honesty (Goffman, 1959). The prosecutor can present the expert more favorably by demonstrating to him or her how to behave during the routine. This includes instructing experts on what clothes to wear, how to speak, how to act in front of the jury, and what to say.

As important as this front stage performance is, the interactions between prosecutors and experts also need to be understood in the context of Goffman's concept of a backstage performance. Backstage, according to Goffman (1959), is where the actors interact away from the audience. Applying this concept to this study, the backstage would reflect where prosecutors and experts might be able to interact away from the jury and work as a team to plan the approach for the front stage. The backstage may involve other actors, including defense attorneys, judges, and expert witnesses. There exists pretrial communication between the prosecutor and defense attorney during the discovery process, as well as the prosecutor, defense attorney, and judge during motions and hearings that may address the admissibility of expert witness testimony. All of these interactions occur away from the jury and courtroom audience members, which is where the backstage processes occur.

This study seeks to understand the interactions between prosecutors and experts in the context of the backstage (i.e. the characteristics of the preparation of testimony between the prosecutor and expert that occur away from the audience). It is important to note that the concept of a team must be developed and practiced in the backstage, so that when presenting in the front stage, both actors can work in concert (Goffman, 1959). Ultimately, the backstage strategies will affect the front stage performance, but it is the detail of those backstage process that occur between prosecutors, defense attorneys, judges, and experts that were explored to understand the strategies in a more detailed manner. It is necessary to understand prosecutorial behavior in the context of Goffman's backstage in order to understand the front stage. For the purposes of this study the backstage refers to any interactions that the prosecutor engages in out of the view of

jurors in the courtroom. It is in the backstage where the pretrial communications and preparation of the expert evidence occurs.

Other researchers have explored how Goffman's concept of dramaturgy and teamwork can be useful for trying to understand the front stage and how experts help prosecutors succeed at trial. This reliance on teamwork is essential, and demonstrates the need for these actors to work (perform) together (Tanay, 2010). This teamwork exists in both the front stage and the backstage. From a performance perspective, it is clear that the analogy of a performance can be applied to a trial, where each actor plays specific roles, and has a specific way to approach the messages to be communicated:

> During pretrial litigators collect, select, and shape facts, very much like a playwright; when they prepare and call witnesses in court, they act as stage director; and during other phases of the trial, such as when they present their opening statement or argue legal points at the bench, they turn into actors (Meyer, 1998, p. 17).

Kutnjak Ivkovich and Hans (2003) also explored how trials operate much like a performance and applied this metaphor to the actions of expert witnesses in particular. These authors discussed the impact of experts on jurors and stated that expert witnessing can be viewed as a performance which lawyers commission and direct. The authors describe the process of this performance, which begins with the lawyer's choice in casting a performer (selection of expert) and proceeds to the script, or content of the testimony, and presentation of testimony (staging) (Kutnjak Ivkovich & Hans, 2003). Their performance is designed to have credibility and reliability, such that the jury will be

significantly impacted by the testimony and it will inform their decision upon deliberation (Kutnjak Ivkovich & Hans, 2003).

Although Goffman's front stage explanation has been applied to the courtroom in previous studies, no studies have addressed the backstage process that occurs outside of the courtroom as it applies to scientific evidence and expert witnesses. This research seeks to fill in that gap by ultimately focusing on how prosecutors use backstage preparation in order to understand the evidence and expert testimony, as well as how the preparation and backstage performance will influence the front stage and ultimately the trier of fact.

Various social science researchers have used Goffman's framework to address the way that self-identity is created and sense of self is shaped by impression management in various contexts. For instance, Goffman's presentation of self and impression management has been used to research gender performances in adult novelty shops (Berkowitz, 2006), gang related gun violence (Stretsky & Pogrebin, 2007), organizations (Manning, 2008), the online dating environment (Ellison, Heino, & Gibbs, 2006), and juries (Rose, Diamond, & Baker, 2010).

Berkowitz (2006) analyzed gender performances in pornographic institutions by utilizing Goffman's impression management perspective, along with the concept of "doing gender". She examines how men and women engage in self-presentation in the interactions in which each engages when attending these establishments. By using a dramaturgical approach, Berkowitz is able to attempt to demonstrate that patrons' interaction is a performance that allows them to provide the audience with impressions that are consistent with the goals of the patron (Berkowitz, 2006). In particular, the

concept of a front (as described above) is analyzed in order to understand how individuals project certain characteristics in adult novelty shops that are either consistent or inconsistent with existing social roles regarding gender norms. According to Berkowitz (2006, p. 587), "Through the front, the actor's social role, interactive behaviors, and audience expectations are brought together."

Although applied in a much different context, Stretsky and Pogrebin (2007), utilized impression management to explain gang socialization. The authors were interested in understanding how gangs are socialized in order to create a sense of identity that is consistent with the goals of the gang, gun use and violence. Impression management is an important concept, specifically when considering the types of tools that gangs may use in order to form identities, as well as projecting an image to other individuals. Guns, in particular are used as these tools that create an impression for others about the gang member, such that others will interpret the actors' behavior to be tough and prone to violence, which allows for the gang member to create a self-identity (Stretsky & Pogrebin, 2007).

Finally, Rose, et al. (2010) applied Goffman's presentation of self in everyday life to explain civil jury decision-making. In their research, the authors address how jurors may attend to *offstage observation*, which addresses the informal influences of a courtroom, outside of the information presented on the witness stand. This may include the observation of a defense attorney when a prosecutor is cross-examining his or her witness. In this sense, the defense attorney is *offstage*, but may give off cues or mannerisms in a way that may influence juror decision-making. The findings suggest that

jurors do attend to offstage observations, but this did not play as significant of a role in the decision-making process as anticipated (Rose et al., 2010).

Though now a classic, Goffman's theoretical perspective is still helpful in attempting to explain modern day concepts and interactions, and will allow for a framework to examine the interactions between prosecutors and expert scientific evidence.

CHAPTER 3

METHODOLOGY

This research is fundamentally exploratory. Though some researchers have examined the relationships between prosecutors, scientific evidence, and expert witnesses, the interaction is still not clearly understood. Given the lack of empirical evidence upon which to base hypotheses, the open-ended, process orientation of the research question (which ask "how" rather than "what" or "if"), and the overall exploratory nature of this project, I used a grounded theory approach and qualitative interviews with former and current assistant prosecutors in Michigan to explore this topic. The research question states: How does expert scientific evidence influence prosecutorial decision-making regarding the preparation process during the pretrial stages of a criminal case? In order to address this research question, the methodology required a focus on interviewing assistant prosecutors because this exploratory, qualitative approach allowed me to gain as much rich detail as possible about prosecutors' experiences, while not limiting them to structured quantitative techniques. Charmaz (2003) stated that often researchers are unaware of the issues that are occurring in a particular setting, and interviewing allows researchers to explore those issues in more detail. That said, the purpose of qualitative research is not to attempt to gain the most representative sample of people or cases through probability sampling, but instead to gain in-depth insight into the social phenomenon under study (Thompson, 1999), potentially laying the foundation for future hypothesis testing.

Although Goffman provides the theoretical framework within which to understand the ways that experts and prosecutors interact with one another, I did not want

to be limited to hypothesis testing or a prior theory upon which to base this study. The purpose of this research was to go beyond an understanding of this interaction, which Goffman may be able to lay the foundation for, but instead to provide detail about themes that help to generate theory about the pretrial preparation process of assistant prosecutors. In a grounded theory approach, "theorists narrow the range of interview topics to gather specific data for their theoretical framework" (Charmaz, 2003, p. 312). By engaging prosecutors in a dialogue about the ways in which they manage expert scientific evidence during pretrial processes, I will demonstrate common themes to begin to understand strategies of impression management frequently employed by prosecutors.

Grounded theory

In a grounded theory approach, the way a researcher develops theory is to constantly analyze data generated through theoretical sampling (Coyne, 1997). In order to build theory from the data in this way, it is necessary for researchers to continuously learn from the data. That is, whether it is an interaction or a process, researchers must come up with an explanation for a particular phenomenon, which is shaped by the information that the researcher receives from a number of participants (Creswell, 2007). Using a qualitative analysis and interviewing from a grounded theory approach has allowed the researcher to discover theory by examining participants' experiences with the topic of interest and using that data to help explain the process (Creswell, 2007). Grounded theory also emphasizes an inductive approach to the data that is shaped by the information that is obtained from the interviews, which requires the researcher to change the interview questions throughout the data collection process in order to focus on the questions that will help to understand the problem (Creswell, 2007). I began the process

with a semi-structured interview schedule to help guide the assistant prosecutors toward certain processes that they experience. In line with grounded theory, these interview questions were revised during the interview process in order to account for emerging themes that were discovered throughout the data collection process. The questions asked were open-ended in order to gain as much information about prosecutors' experiences as possible. An open-ended semi-structured approach also allowed this researcher to focus on the prosecutors' views of the pretrial process with an emphasis on scientific evidence and expert witnesses.

> To study these topics, we ask open-ended research questions, wanting to listen to the participants we are studying and shaping the questions after we 'explore', and we refrain from assuming the role of the expert researcher with the 'best' questions" (Creswell, 2007, p. 43).

The questions are always likely to change throughout the data collection process in order to demonstrate a more detailed awareness of the problem (Creswell, 2007).

Given the lack of empirical research on the proposed topic, grounded theory was chosen. Grounded theory is unique in that the data are utilized to build the theory (Glaser & Straus, 1967), and is best used when there are not alternative theories that can identify the phenomenon occurring. The empirical literature about prosecutorial strategies for preparing and presenting expert evidence is lacking and thus there is not an established theory that can help to explain this process. While some theories may help shed light on the process, such as Goffman's impression management and dramaturgy, the theoretical framework does not take into account all of the issues that are of interest for this project.

It was more helpful to employ a grounded theory approach and generate theory about this topic that has not been fully addressed in the literature.

Sampling and recruitment

Since the final aim of this project is not generalization, two sampling strategies utilized in qualitative research are purposive and theoretical sampling. Purposive sampling is the most common strategy for several different types of qualitative approaches to research, however theoretical sampling is most often used with the grounded theory approach.

> Theoretically sampling is the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges (Glaser & Strauss, 1967, p. 45).

This type of sampling is extremely flexible (Charmaz, 2003), in that the researcher constantly has to reevaluate, and perhaps even change, the people or cases he or she selects for the research (Coyne, 1997). This inductive approach has been referred to as a "zigzag process" because the researcher begins in the field, leaves the field to analyze the information he or she collects, develops preliminary codes, returns to the field to collect more data, then leaves again to conduct further analysis, and so on, repeating the process until saturation occurs (Creswell, 2007). Theoretical sampling was employed in the types of questions that were asked of the prosecutors and the way that the questions shifted and changed to account for previous interviews. Data were analyzed concurrently while interviews were being conducted to help direct the interview questions.

Criterion based sampling and snowball sampling were utilized to gain access to

assistant prosecutors. Criterion based sampling emphasizes using a specific criterion to identify participants who have experienced a similar process (Creswell, 2007). The criterion used in this study was former or current assistant prosecutors in Michigan who had some experience working with scientific evidence and expert witness testimony. Given the exploratory nature of the project, it was important to identify any individuals who had this experience with this scientific evidence. Thus, I included former as well as current assistant prosecutors given that both groups of people have experienced working with scientific evidence and expert testimony. Scientific evidence and expert witness testimony have been used for many years. In light of this fact, it was more important to gain as much information as possible about the use of this type of evidence through inclusion of former assistant prosecutors, than it was to focus only on current assistant prosecutors. Assistant prosecutors were chosen in light of their daily activities revolving around handling a large number of cases and their individual autonomy that they have in their daily jobs. Elected county prosecutors, by contrast, often have largely administrative responsibilities as elected officials who head government offices. I was able to identify people who either fit the criteria to be interviewed or were in the legal community and could identify others that would fit the criteria.

This led to snowball sampling by asking those who were interviewed, or those who had knowledge of assistant prosecutors in Michigan, to provide me with names. Snowball sampling is important in order to identify relevant participants who are known to have specific experiences (Miles & Huberman, 1994 cited in Creswell 2007, p. 127). This was accomplished by asking assistant prosecutors whom I interviewed to provide me with names of other assistant prosecutors who were known to have experience with

scientific evidence and expert witness testimony. I utilized emails and phone calls to recruit the identified assistant prosecutors. My recruitment communication addressed whether the assistant prosecutor had specific experience with scientific evidence and expert witness testimony. All of those that I identified, who returned my calls or emails, stated that they had the necessary experience to be included in the project.

Research participants

In order to choose participants for a project in grounded theory, it is important to consider the theoretical relevance of participants (Creswell, 2007). According to Creswell (2007), often this requires approximately 20-30 interviews that will help to saturate the categories and thereby generate a theoretical perspective. Although Creswell (2007) states that 20-30 interviews are a reasonable sample for a grounded theory approach, fewer participants are acceptable if the data become saturated (Glaser & Strauss, 1967). Saturation is the point at which the researcher concludes no new information is being discovered to better understand the categories that have been developed throughout the research by adding new cases (Glaser & Strauss, 1967; Creswell, 2007). Saturation also reflects a point at which the results are redundant (Josselson & Lieblich, 2003).

Nineteen former and current assistant prosecutors in Michigan were interviewed for the study. Saturation was reached with 19 interviewees when redundant information was continually provided by prosecutors regarding their experiences with scientific evidence and the preparation process they engaged in during pretrial processes. Given that I used open coding throughout the data collection process, it was a straightforward matter to identify saturation when no new information emerged about the themes from assistant prosecutors.

In order to address the research question presented above, it was necessary to identify assistant prosecutors in Michigan who have had some experience with scientific evidence and expert witness testimony. Assistant prosecutors were important because these are the individuals who regularly handle cases, and follow a case from pretrial to sentencing. Though this sample was initially broadly defined, given the lack of information, any detail that a person with prosecutorial experience would provide will add to the generation of theory about this process.

Michigan was used as the research site because it has a mix of urban and rural counties and encompasses affluent suburbs, agricultural areas of small towns and rural areas, as well as economically declining urban areas with significant problems of criminal violence. As a result of this diversity of contexts, prosecutors in the state may work in very different local legal cultures that deal with significantly different crime problems. Such a sample would thereby represent the diverse nature of crimes and contexts in which scientific evidence and experts play a role. Interviews were conducted with prosecutors in a variety of counties in Michigan. The counties included were: Oakland, Wayne, Macomb, Midland, Washtenaw, Isabella, Saginaw, Lapeer, Livingston, Bay, and Gladwin counties. This broad array of counties allowed for initial comparisons regarding the ways prosecutors in different locations approach the use of scientific evidence and expert testimony based on local legal culture, resources, and expectations. Table 1 provides details on the counties included in the sample. The experience of the prosecutors varied and ranged from 7 years to 26 years of experience as an assistant prosecutor, with an average of 14.5 years. Prosecutors differed based on actual years of experience as well as number of cases handled that utilized scientific evidence.

Prosecutors had anywhere from 20%-100% of their caseloads that relied on the use of scientific evidence or expert witness testimony.

Table 1: County details

County	Population[a]	Budget of prosecutor's office	Criminal caseload[j]
Bay	106,935	$1,461,144[b]	981
Gladwin	25,692	*	299
Isabella	70,617	$885,601[c]	953
Lapeer	88,173	$287,200[d]	464
Livingston	182,838	*	917
Macomb	847,383	$8,666,960[e]	6,059
Midland	83,822	*	425
Oakland	1,220,657	$19,170,797[f]	5,595
Saginaw	198,353	$3,054,871[g]	2,203
Washtenaw	350,946	$5,900,165[h]	2,846
Wayne	1,792,365	$14,385,349[i]	13,606

Sources: Data drawn from:
a. U.S. Census Bureau. (2012). *State & county quickfacts.* Retrieved August 1, 2013, from http://quickfacts.census.gov
b. Bay County Budget 2011. Retrieved from: http://www.baycounty-mi.gov/Docs/Finance/FY%202012%20Budget%20817%20pages.pdf
c. Isabella County Budget 2012. Retrieved from: http://www.isabellacounty.org/dept/admin/budget/2012BudgetSummary.pdf
d. Lapeer County Revenue Report 2011. Retrieved from: http://www.lapeercountyweb.org/finance/prorev2012.pdf
e. Macomb County Budget 2013. Retrieved from: http://www.macombgov.org/Finance/pdf/2013_pdf_budget/2013recommendedbudget.pdf
f. Oakland County Budget 2013. Retrieved from: http://www.oakgov.com/mgtbud/fiscal/Documents/2014-2016_Rec_Budget/Categorical%20Analysis%20Budget%20Book%202014-2016.pdf
g. Saginaw County Budget 2011. Retrieved from: http://www.saginawcounty.com/Docs/Controller/2011%20Budget%20Draft%201%20compiled.pdf
h. Washtenaw County Budget 2012. Retrieved from: http://www.ewashtenaw.org/government/departments/finance/budget/2012-13-budget-summary/07-departmental-summaries-2012-13-final.pdf/view
i. Wayne County Prosecutor Budget 2013. Retrieved from: http://www.waynecounty.com/documents/mb_docs/Pros_Attorney.pdf
j. Michigan Caseload Reports. 2012 Statistical Supplement. Retrieved from http://courts.mi.gov/education/stats/Caseload/Pages/2012-Statistical-Supplement.aspx
*Counties do not all publish data in the same manner, thus leaving missing data in the table.

There were a variety of cases identified by the prosecutors as those that tend to need scientific testimony. Examples of cases that commonly have scientific evidence included drunk driving, drug cases, sexual assault, home invasion, animal abuse, and homicide to name a few. The variety of cases that the prosecutors addressed provided information indicating that scientific evidence is very prevalent in many types of felony cases that prosecutors manage.

Interview protocol

Following the rationale of grounded theory and theoretical sampling, methods based on these approaches were used to conduct semi-structured open-ended interviews with prosecutors. Rather than constraining the choices through closed-ended survey or structured interview questions, this approach did not limit the explanations prosecutors provided about the process for preparing experts and evidence with an eye toward presenting the information. Prior to conducting these interviews, there were informal conversations with prosecutors, in which they implied that they might not consciously use strategies in accessing expert testimony or presenting it to the jury. However, even in these informal discussions, themes emerged even if the prosecutors were unaware of them. Given that the participants themselves may be unaware of the strategies they employ in managing scientific evidence and experts, a grounded theory methodology was ideally suited to exploring the topic. By allowing prosecutors to freely discuss the issues, themes emerged that could be pulled out, identified, and analyzed.

To begin the process of theoretical sampling, semi-structured interviews were used with questions arising from the research question and areas of exploration listed in the introduction. This was done with the understanding that it would be necessary to

reformulate these questions after the interviews began in order to better orient data collection to their concerns and definitions of the situation. The initial interview list began with 13 questions but it grew to 20 by the end of the data collection period. The addition of questions and reformulations of other questions were based on the information that the prosecutors told me during the interviews. This connects well to the grounded theory approach and theoretical sampling regarding an analysis of the data during the data collection process to account for emerging themes that were brought forward. The initial interview questions are provided in Appendix A and the revisions are addressed in Appendix B. It is important to mention that although I had set questions, a semi-structured approach allowed me to revise questions or add questions during the interview depending on the responses from the participants. Interviews with assistant prosecutors were conducted over a period of two and a half months. Although the length of time spent on each individual varied, on average, interviews lasted approximately one hour. The interview data was recorded using a variety of techniques, which was determined by the context of the interview. Several interviews were audio recorded and transcribed, other interview data was either handwritten or typed.

The initial questions began by asking how long the interviewee worked as an assistant prosecutor. This allowed me to gain an understanding of the level of experience of the assistant prosecutors, which provided me with a basis on which to analyze their experiences. The next questions addressed whether the assistant prosecutors had experience utilizing scientific evidence and/or expert witnesses. Although this experience was established as a criterion for inclusion into the study in my recruitment emails and phone calls, it was important to have the assistant prosecutors reiterate that they did have

this specific experience. I also wanted to establish the number or percentage of cases that the assistant prosecutor had handled that utilized scientific evidence. This question allowed me to gain an understanding of more specific experiences of the prosecutors, which dealt with specific cases that they had managed. This provides a more detailed level of experience, not just as an assistant prosecutor, but also as one who could specifically identify cases that they were familiar with which utilized scientific evidence. This question also helped to direct participants to the specific cases that would help to provide more detail for later questions.

Given the broader theoretical framework of Goffman and backstage processes, it was important to establish questions that addressed communication with defense attorneys and judges during the pretrial phases of a case, as well as the preparation process that prosecutors engaged in that reflected interactions with the expert witness. In order to recognize when prosecutors become aware of scientific evidence, prosecutors were asked how early in a case the possible use of scientific evidence arises. It was important to establish how early in the process this occurs in order to gain an understanding of how quickly scientific evidence plays a role in prosecutors' strategies. Similarly, it was important to establish how prosecutors experience the pretrial communications surrounding scientific evidence and/or expert witness testimony with defense attorneys and judges. The focus of this research was about strategies, and this question was based on the notion that the backstage processes in which prosecutors engage may be affected by early communication with other courtroom actors. The manner in which the defense attorney and judges receive scientific evidence could have an impact on strategies and the preparation of experts.

Several questions addressed the specific interactions between prosecutors and expert witnesses during the pretrial preparation process. Questions such as: “Do you engage in preparation of the witness?”; “how much time is spent preparing the expert?”, and “is there a different preparation process for routine versus non-routine experts?”, all allowed me to focus more specifically on the backstage process that occurs outside of the courtroom with the prosecutor and expert during the prosecutors’ strategies for trial. It was important to continually address the difference between routine and non-routine experts: Routine experts are those that testify in court regularly, work with prosecutors regularly, and are employed by the state. Non-routine experts are those that testify less often, may be unfamiliar with the court environment and procedures, and may have never interacted with the prosecutor prior to the case at hand.

The questions addressed above were the questions posed in the first interview. Several additional questions were added, almost immediately in some cases, in order to account for prosecutors’ experience with scientific evidence and expert testimony. The first question to be included, based on an emerging theme from the interviews, was whether prosecutors have ever called experts to show why there may be a lack of evidence. By asking this question, I was able to understand more detail about the pretrial concerns of a prosecutor as well as how prosecutors adapt their behavior to account for higher expectations from jurors. Another additional question reflected the notion of how scientific evidence may or may not influence the pretrial resolution of a case. By asking if it was more likely for prosecutors to take a case with scientific evidence to trial, I was able to begin to understand how the strength of evidence, particularly scientific evidence influences the strategies regarding plea negotiations.

Several additional questions were asked to some prosecutors depending on their responses to previous questions. I included a question about preparation for the cross-examination of an expert to determine if some of the preparation was less about how to manage a prosecution expert and more about how to rebut a defense expert. I also wanted to know the prosecutors' beliefs about the strength of scientific evidence so I included a question on whether there are some types of scientific evidence that they thought were stronger than others and whether or not that changed the way they approached a case. All of the questions, including the revised and additional questions, were asked in order to focus on the pretrial processes of prosecutors when they were faced with scientific evidence, expert testimony or both. This relates back to the theoretical framework, which helped lay the foundation for a focus on the backstage processes of prosecutors, including interactions with other courtroom workgroup members, and experts outside of the courtroom environment.

Coding

I engaged in open coding of the data, which emphasizes the need for the researcher to develop categories and themes about the topic under study (Strauss & Corbin, 1990; Creswell, 2007). This initial coding began during data collection and continued after data were fully collected. The information was coded as: the CSI effect, resources, preparation, pretrial communication, and plea negotiations. "From this coding, axial coding emerges in which the researcher identifies one open coding category to focus on (called the 'core' phenomenon), and then goes back to the data and creates categories around the core phenomenon" (Creswell, 2007, p. 64). After open coding the data, I used axial coding to reorganize the data that was established in open coding. The

final themes that were generated from the data were: factors that influence the use of experts, the preparation of scientific evidence and testimony, pretrial communications with other courtroom workgroup members, managing a lack of scientific evidence. These themes were generated to represent the information collected from participants and to represent the literature that has been established in similar areas as well as the theoretical framework that emphasizes the backstage processes of assistant prosecutors.

CHAPTER 4

FINDINGS: FACTORS THAT INFLUENCE THE DECISION TO CALL EXPERTS

The research question is concerned with how prosecutors manage both scientific evidence as well as expert witnesses at trial. Prior to presenting information at trial, including expert witness testimony, prosecutors must contemplate whether or not to call experts. Prosecutors utilize expert witnesses for a variety of reasons. Experts are called to present evidence that they collected at the scene of a crime or to demonstrate the analysis of scientific evidence. Additionally, prosecutors may call experts who have analyzed the mental state of the defendant. Most experts that are called to testify by the prosecution are routine experts. These are experts who work for the state and routinely present information at trial regarding the scientific evidence that was collected and analyzed. Prosecutors regularly use these routine experts, and because these experts are employed by the state, prosecutors do not have to provide additional funding for this testimony.

There are cases that may require outside expertise from those who are not employed by the state. Prosecutors consider several factors in determining whether or not to call these non-routine experts. Resources, case seriousness, the necessity of the expert, and logistics regarding scheduling time for the expert to testify all influence a prosecutor's decision to call an expert.

Resources

Resources affect every stage of the criminal justice process, from police officers' arrests of suspects, to judges' considerations when sentencing. As summarized by one interviewee, "Resources play a role in everything" (Int. 11). These external pressures and constraints exist for prosecutors on many levels. Prosecutors' resources are limited and in

many cases the supervisor of the assistant prosecutor makes decisions about resource allocation. The assistant prosecutor can often make the case that if the crime is serious then resources are necessary. Of course, this depends on the county, given that each county will have different resources to work with. In the context of this study, resources were addressed as important when determining whether or not to call experts outside of the routine expert (generally a witness with the Michigan State Police). For prosecutors, the issue with using resources to call experts is not a distinct choice that is made and often no extra funding is necessary for these experts. Prosecutors rely predominantly on experts who are paid by the state, such as crime lab technicians, medical examiners, and forensic psychologists. As stated by one interviewee, "Experts in state court are crime lab people that you don't have to pay. That's part of their job to testify" (Int. 9). Therefore the issue of resources is one in which the impact is greatest if the prosecutor requires outside expertise.

For cases that need outside expertise, decisions to call experts may be based on resources. In the words of one interviewee, "In some jurisdictions the bottom line is that there is no money to call experts" (Int. 15). As described by another interviewee:

> When I first started as an assistant prosecutor [25 years ago] it [resources for experts] was never an issue. If you needed an expert you would walk down to the boss and boom! Now we have severe budget constraints. You have to really make the case that you need an expert and it justifies the cost, because the money is just not there (Int. 13).

In some cases, prosecutors' resources were much more limited than a private defense attorneys and this led to scientific expertise not being sought out. As described in one

interview: “I had a case where gun powder residue wasn’t done because it was expensive, and others say it was unreliable. The defense attorney tested it in Dallas. The prosecutor wouldn’t do that” (Int. 10).

Resources of the prosecutors’ offices can impact how prosecutors make pretrial decisions. Additionally, the resources of crime labs and the Michigan State Police also have an impact on prosecutorial strategies. For example, one interviewee stated, “Resources certainly affected DUI cases-the state police crime lab was overwhelmed” (Int. 19). The backlog on analyzing DNA is 8 months to 1 year, based on several accounts from these participants, and if the technician needs to testify this limits the resources of the crime lab. Additionally, based on the interviews of several prosecutors, it was stated that the Michigan State Police does not have a toxicologist. This backlog and lack of resources could affect the experts as much as the prosecutors, particularly in cases where the expert is being asked to address a lack of evidence. Regarding how MSP resources could affect prosecutors calling experts, one interviewee said:

> Most MSP labs are backlogged and have limited resources and they don’t understand why they need to come in to testify about evidence that was not found. The prosecutor has a different perspective. We know that jurors will ask for information. MSP will get frustrated to testify when nothing was found (Int. 15).

The lack of resources of the state crime labs also impacted the decision to charge a suspect. Without a toxicologist, for example, some cases may have to be dismissed or pushed back in order to determine how to approach this issue. For example, one interviewee stated:

> What if we can't get a toxicologist to testify… can we prove this beyond a reasonable doubt and if I'm going to charge this then should we get an opinion from toxicologist now? Before we charge this should I be talking to the person that we would use as an expert to decide if we can prove this? That wouldn't have been a consideration before when we had toxicologist.

If the resources do not exist within the state crime lab employee system regarding specific expertise, prosecutors need to utilize outside experts to demonstrate a specific scientific issue in the case. When speaking with one interviewee, he indicated that this would require prosecutors to ultimately use their own resources to find outside expertise when MSP cannot provide them (Int. 17).

Due to the lack of resources in the Michigan State Crime Lab (e.g. a toxicologist), prosecutors may have to go outside of the state employee system in order to find out if there are other experts that could analyze and testify about a drug case that requires toxicology results. This decision-making process must not only take into account resources, but also finding an expert with the appropriate background and experience to be effective at trial. As described by one interviewee, [There are] "no toxicologists in our county toxicology lab. I get emails about different experts that I might use so I save that [information] but I haven't looked at their credentials" (Int. 3). If the MSP crime labs cannot provide routine experts, prosecutors must determine how to approach accessing outside experts.

While resources of both prosecutors' offices and crime laboratories are an important consideration for prosecutors regarding whether or not to call an expert, other factors may override resources. Although prosecutors' offices have had significant

budget cuts, which can affect funding for an outside expert, the severity of the case may take precedence when determining how to allocate funds. Case seriousness is a major consideration in the way that prosecutors handle a case from the beginning.

Case seriousness

Resources appear to be less of an issue if the crime charged is more serious. Cases that were regarded as especially serious and therefore deserving of extra resources were homicides, sexual assaults, and child death cases. Two interviewees from the same county explained:

> Our budget's been slashed, so we tend to focus on experts that are available to us from county and state. The cases that routinely get approval to go outside and find the money would be the child death cases, because [they are] very high profile and emotional (Int. 5).
>
> I'd suspect that in bigger cases, there will always be able to fund an expert, but if it's a questionable witness who might be helpful but don't really need them, that could be a determining factor whether the funds [will] exist [for this purpose] (Int. 8).

An interviewee from a different county emphasized the impact of the seriousness of a case by stating, "If CSC [criminal sexual conduct] we will devote more resources, because there is more at stake" (Int. 3).

Several prosecutors discussed the issue of resources affecting the use of experts. Most stated that if the case is serious then resources are generally not an issue. On the opposing side, it may be difficult for prosecutors to get scientific evidence analyzed and testified to if the case is less than serious. "For DUI cases there are a huge number of

cases, and a limited pool of people analyzing blood. It's like pulling teeth to get an expert from MSP to testify in misdemeanor DUI cases" (Int. 19). But for the cases that may not be as serious as murder or sexual assault, the issue of an expert may be that he or she is just emphasizing another piece of evidence.

Necessity of experts

In order to protect resources, prosecutors must carefully consider the usefulness of the expert testimony. Prosecutors are reluctant to call multiple experts to demonstrate the same issue, or because they do not want to confuse jury members. For example, one interviewee said, "Experts may be helpful, but not necessary" (Int. 3). This quote was reiterated in many interviews that emphasized that scientific evidence is important in the context of the case. Prosecutors may handle evidence differently depending on whether it is the ultimate issue or just another issue in the case. They are careful not to expend resources on experts that would not necessarily benefit their case given the other types and amount of evidence that already exists. As one interviewee described, "I wouldn't want to call more than one expert to say the same thing. If two medical examiners saw a body, I don't want to be redundant and have overlapping testimony if it's not necessary (Int. 7). Another interviewee emphasized this point by stating:

> I would not call an expert, just because I could, because it might only add a little bit of something. For that little bit that the jury might get swayed they might get more annoyed with the fact that they just spent 4 hours listening to an expert and they didn't gain much from it, or they just learned something that they already knew. So everything has to be in the context of presentation to the jury or presentation style to the jury (Int. 8).

Pretrial decisions take into account how the jury may be affected by the evidence or testimony. Prosecutors' strategies involved how jurors may perceive expert testimony and prosecutors made decisions about how experts would specifically be received by jurors. For example, one interviewee stated,

> Sometimes it [multiple experts] might be too much for the jury to comprehend. And you don't want to confuse them. If it's not a major issue in the case, if secondary, could confuse them [jurors] or put too much stock in them [experts] when they don't need to (Int. 18).

The rationale for calling experts is driven by the evidence, the seriousness of the case, and the resources available, as well as whether the expert is necessary to address the main issue in the case. For instance, using experts to demonstrate a lack of fingerprint evidence may not be helpful if the major issue of the case is not about scientific evidence, or if it would not make sense to call an expert. For example, "Budgets are a big issue with this. Sometimes it doesn't make sense if, for instance, a knife is involved, but it came from the defendant's house, but you would expect that, so wouldn't need to fingerprint it" (Int. 9). Resources can significantly impact whether prosecutors call an expert to demonstrate why there is a lack of scientific evidence, which will be discussed on more detail in chapter 7. Although almost all of the prosecutors in this study stated that they often call experts for this purpose, many of them recognized that it would depend on what other evidence exists, and if there are enough resources to call an expert.

Scheduling

Resources, with a specific focus on timing and scheduling, also play a role in how prosecutors must make early decisions about a case, which includes defense attorneys

and judges. This focuses on logistics and schedules of experts and is described by one interviewee, "Evidence will come up regarding logistics; if an expert is not available and need to reschedule" (Int. 7). Another interviewee provided additional detail about this issue:

> For experts, court is not where they want to be, especially if you're talking about doctors and practitioners who have regular careers outside of being an expert. So it takes a lot of cooperation from the court to figure out what is the best schedule to get an expert in for convenience to them. It might mean calling things out of order, where defense will call expert in the middle of a case or we won't present expert until later (Int. 8).

There are many ways of envisioning resources regarding the pretrial process and communication between prosecutors and other courtroom workgroup members. Resources could be about money, specifically, and the lack of money in certain counties has affected prosecutors' decisions to charge, call experts, and schedule experts with the court. While resources are an important factor in the decision-making process, they are not necessarily the sole factor that determines whether an expert will be used. The seriousness of the case, the necessity of the expert, and the logistics of scheduling an expert also factor into the prosecutorial strategies regarding the inclusion of expert testimony. These additional factors, especially the seriousness of the case with respect to homicides, sexual assaults, and child abuse, may override the concerns about time and money that affect cases concerning lesser offenses.

CHAPTER 5

FINDINGS: PRETRIAL COMMUNCIATION WITH COURTROOM WORKGROUP MEMBERS

Prosecutors function in an organizational environment with other courtroom workgroup members with whom they often interact during the pretrial stages of a case. Interactions between prosecutors and defense attorneys and between judges, prosecutors, and defense attorneys are part of the backstage process of a criminal case. A theme that emerged from the data regarding these backstage processes was the type of communication that occurred between the courtroom actors outside of the presence of a jury or an expert witness. The importance of these interactions may have some influence on pretrial plea negotiations or the admissibility of scientific evidence at trial.

Communication with defense attorneys

Some of the interactions between a prosecutor and defense attorney during the pretrial process involve the prosecutor providing the pertinent evidence and information to the defense. This interaction is based on the rules of discovery, where a prosecutor must divulge all evidence, including scientific evidence, to a defense attorney and defendant. When asked whether there was pretrial communication with defense attorneys, almost all prosecutors emphasized the concept of discovery, but stated that there is not specific communication about scientific evidence. Additionally, prosecutors stated that the use of scientific evidence may not necessarily play a significant role in communications with defense attorneys in the pretrial process. Some prosecutors did indicate that scientific evidence could garner a guilty plea during the pretrial phases, but often prosecutors indicated that was a decision a defense attorney would make, based on the strength of the evidence. One interviewee stated**,** "If there is scientific evidence from

a credible source, less likely to go to trial" (Int. 6). Another interviewee emphasized the importance of scientific evidence by stating, "It would be difficult for defense to overcome scientific evidence" (Int. 2).

Plea negotiations are very common and it may be that the efficiency of the system is more important to a plea negotiation than the scientific evidence. To emphasize this point, one interviewee said, "Many cases are disposed of without scientific evidence" (Int. 1). Another interviewee reiterated this point by stating, "All evidence influences plea deals. It could be eyewitnesses or confession, but scientific evidence is very compelling" (Int. 19). Int. 19 mentioned that scientific evidence is compelling, and others indicated that some types of scientific evidence are stronger than others, particularly if the science is the main issue in the case. As described by one interviewee, "So many cases plead; stronger cases with scientific evidence. DNA is likely to force a plea" (Int. 4). Recognizing the strength of evidence another interviewee said, "Generally it [scientific evidence] helps to resolve cases without a trial because it's usually a stronger case. This could depend on if it helps to corroborate other evidence or it is the primary evidence in the case" (Int. 3). Other prosecutors echoed this statement by emphasizing that scientific evidence may be strongest if it is the ultimate issue in a case. A case example was provided to demonstrate this issue:

> [There are] Some cases where scientific evidence is so strong that it eliminates most issues. DNA is a prime example. A rape case also depends on what a defendant says. If there is a rape and a defendant says he never saw the woman and the DNA comes back as a match, then identity established. If the defendant

says that it was consensual sex then DNA has no meaning. If scientific evidence is the ultimate issue this is going to be important evidence (Int. 7).

Although prosecutors are considered to be the most influential courtroom workgroup member, interviewees indicated that while scientific evidence can be strong evidence in the context of the case, often the defense attorney, rather than the prosecutor will initiate plea negotiations. As described by one interviewee, "Usually [it is] not the prosecution that takes the case to trial, that is done from defense. When you have scientific [evidence], I think a case is less likely to go to trial. But those are made from defense point of view" (Int. 15). Another interviewee stated, "As a prosecutor, I am ready to take any case to trial and plea negotiations will come down to defense's call" (Int. 4). Another interviewee explained the reliance on the defense to make plea decisions and described his particular experiences in speaking with a defense attorney. The interviewee explained: "I was talking to a court appointed attorney who gets a lot of high end, high profile cases. [I said] tell me what you do when you get a DNA case. [The defense attorney replied] I just plead them" (Int. 17). Although based on one account of a defense attorney not interviewed for this study, this quote emphasizes the notion that defense attorneys are in a position to make plea decisions initially. The comment also emphasizes that scientific evidence, and specifically DNA evidence is considered to be strong evidence for a defense attorney.

The prosecutor is anticipating a trial in many circumstances, which also depends on the seriousness of the case. One interviewee said, "In my field you're charged with 1st or 2nd degree murder, you have no options. You're either going to get a double-digit sentence or it's mandatory life in prison. There isn't a reason not to go to trial" (Int. 5).

Prosecutors are well prepared to go to trial, but given the large number of plea negotiations throughout the country, there is a high expectation for plea-bargaining. Prosecutors in this study emphasized that while scientific evidence could demonstrate strong evidence, this could either push a case to trial, or create a situation where the defense attorney may engage in plea negotiations.

Communication with judges

Judges are the gatekeepers of scientific expert evidence, however, many of the prosecutors indicated that they have very little interaction with judges regarding the introduction of scientific evidence. For example, one interviewee stated, "Judges are not involved with pretrial communication at all. Some judges are active because they want the case settled; others take position that it's between two attorneys" (Int. 2). Another interviewee stated, "A lot of judges are not willing to participate in any communication about the evidence" (Int. 19).

The role of judges can be the gatekeeper (in a *Daubert* hearing) if cases come before judges that require a decision about admissibility of scientific evidence. Many of the types of scientific evidence utilized at trial are not novel science and some have been around for many years so often the science is not disputed. Most of the prosecutors recognized *Daubert* hearings as a way that the judge becomes involved with decisions about scientific evidence, but few of the prosecutors had any direct experience with a *Daubert* hearing. Some prosecutors had experience with *Daubert* hearings where the judge had to determine if the scientific expertise followed the rules of admissibility based on *Daubert.* As described by one interviewee, "Whenever there is a new tool or instrument, there is almost always a challenge under Daubert to use that" (Int. 6).

Another prosecutor had two *Daubert* hearings in the circuit court of a high profile case, where the defense was trying to challenge a forensic pathologist. The judge determined that it was a legitimate science. When asked what the judge focused on during this decision, the prosecutor replied: "[He] focused on both science and credentials" (Int. 15). Another prosecutor had experience with a Daubert hearing due to a recently developed scientific technique and stated, "I had a battle about DNA and a *Daubert* hearing. Michigan had not had a published case on mDNA [mitochondrial DNA], the defense wanted a *Daubert* hearing to know if mDNA was reliable" (Int. 14).

Most of the evidence provided by the prosecution or defense is not novel scientific evidence, which would require judges to determine admissibility. For that reason, prosecutors indicated that *Daubert* hearings were rare and most addressed this issue, but many did not have personal experience with challenging scientific evidence in front of a judge.

CHAPTER 6

FINDINGS: PREPARATION OF SCIENTIFIC EVIDENCE AND TESTIMONY

The research question and theoretical framework address the pretrial or backstage processes that occur between experts and prosecutors. One of the most important questions addressed throughout this research was the ways in which prosecutors and experts prepare prior to going to trial. Experts were characterized as routine or non-routine. Routine experts frequently testify in court about scientific evidence retrieved from the crime scene, including medical examiners, state crime lab employees, or police officers. Non-routine experts included experts who do not testify as often, or with whom the prosecutors are less familiar. This distinction between routine and non-routine experts provided some insightful results about how assistant prosecutors experience the preparation of experts and the communications that prosecutors have from the beginning of a case.

The use of scientific evidence is usually apparent at the outset of a case. Police officers collect evidence at the crime scene, and often this is scientific evidence, such as DNA, fingerprints, ballistics, etc. As one interviewee described, evidence collection for prosecutors is a

> parallel investigation with police. It is a three-step process; detectives interview witnesses, detective attempts to interrogate suspect, and the third component is collection of evidence. Prosecutors rely on detectives to [collect evidence] and they [the police] know what they're doing regarding the collection of evidence. So it [the introduction of scientific evidence] arises when police hand over evidence to the prosecutor to make the charging decision (Int. 2).

The evidence collected is likely to dictate the decisions to charge a suspect, but it will also dictate who will be an expert witness. One interviewee said, "Often [a] case comes with [its] own experts, [an] expert has already handled evidence, collected it, analyzed at lab" (Int. 11). In general most prosecutors stated that the evidence drives the decision of who will be the expert. One interviewee said, "Evidence will dictate experts" (Int. 10). There is no distinct choice that a prosecutor will make regarding who to call as experts, because these are the routine state-paid employees that frequently testify. The cases where prosecutors may have a choice, or must call experts outside of the state employees, are referred to here as non-routine experts. This does not mean that the expert has never testified in court, but it usually means the prosecutor has less familiarity with these experts. The difference in familiarity of routine versus non-routine experts will impact and dictate the process of preparation for the expert. Additionally, preparation was often addressed as something that the prosecutor engages in on his or her own. This type of self-preparation proved to be as important as the preparation that exists between the prosecutor and the expert.

Self-preparation

Prosecutors must routinely educate themselves about the scientific evidence that will be useful in a case. Prior to interacting with a scientific expert, the first step in this process is for the prosecutors to read the report from police officers that indicates the type of evidence that will be important at trial. Once the prosecutor is familiar with the type of evidence that he or she has, the next step is self-preparation. This often comes in the form of reading articles or generally educating themselves about the science. One interviewee

said, “I need to learn how to deal with science that I don’t understand. I need to read on my own” (Int. 14).

It is important that this process occurs prior to meeting with an expert so that the prosecutor is able to understand the expert’s comments, but also be able to ask the expert questions that may be unclear. One interviewee stated that, “You need to educate yourself first” (Int. 1). Another interviewee said, “Any prosecutor worth their weight is going to try to have an understanding of the subject matter, so when you have [a] conversation with [an] expert at some level you can understand it” (Int. 12). This process of self-preparation did not appear to differ based on years of experience. Many of the prosecutors in this study recognized that it is important for them to educate themselves on the science of the case, particularly in those cases where the science was novel, or the prosecutor had limited experience with that type of scientific evidence. As one interviewed described, “For DNA cases, these are routine to me so I don’t need a lot of preparation. A mixture of DNA could be confusing, so I try to educate myself with online scientific articles” (Int. 7). Another interviewee similarly stated:

> I need to learn how to deal with science that I don’t understand. I need to read on my own and if I can, I meet with the expert and get a dialogue going so that we are both comfortable (Int. 18).

Although prosecutors must prepare themselves to understand the scientific evidence in a case, this is just the first step of the preparation process. In general, prosecutors stated that after the self-preparation process, there is often some communication with experts prior to trial. Some prosecutors stated that they rarely meet with experts, while others indicated that there is a significant amount of time devoted to

these meetings. The variation in time spent with an expert was often based on whether the expert was routine or non-routine.

Reciprocal education

While prosecutors must first educate themselves about the subject matter, particularly when it is an area that is new to the prosecutor, they also rely on the education from experts. Experts function differently depending on whether or not they are routine or non-routine experts. Routine experts have likely met with the prosecutor many times so the education and preparation process has been refined. In cases where the science is novel, or complicated, or if the prosecutor has never met with the expert before it appears that there is some form of reciprocal education occurring between the prosecutor and expert. One interviewee emphasized this by stating, "They educate me, I have to educate them" (Int. 5). Another interviewee described, "I've had many experts where it's like a class" (Int. 15). This participant was indicating that often it might be necessary for prosecutors to learn from experts about the science and also about what the expert will be testifying about. Related to the educational process an interviewee said, "A lot of it is more educational than anything else, to give a sense of why you are bringing it [the expert evidence] in" (Int. 18).

The reciprocal education between expert and the prosecutor indicated that the expert must educate the prosecutor, but at times it was necessary for the prosecutor to also educate the expert on what can be said during trial. One interviewee stated, "I may speak with the expert about legal rules, such as suggesting to them what to wear, talking about the case in hall, or not to argue with defense attorney" (Int. 9). Again, this would be more important for a non-routine expert. An interviewee described that the education of

the expert is "limited to the prosecutor teaching the expert about legal procedure" (Int. 15). Another interviewee said, "I tell them how to sell themselves to the jury, part of it is to let them know not to argue, fight with the defense" (Int. 5).

The education of the expert about legal procedure, as well as the preparation process in general, was impacted by whether or not the expert was considered routine and familiar with the case and court proceedings or non-routine experts, who were more limited in their knowledge about the court process.

Routine v. Non-routine experts

There are differences in the preparation process of a routine expert compared with a non-routine expert. Some prosecutors emphasized that they did not spend too much time preparing expert witnesses. The rationale for this generally revolved around routine experts who are always testifying in court. The number of years of experience of a prosecutor did not determine whether the prosecutor prepared the witness or the amount of time spent with the witness. As one interviewee described, "Most of them [experts] are used to testifying, many of them even have a set of predicate questions to give to prosecutor" (Int. 15). Another interviewee detailed this process by stating that, "For routine experts, it wouldn't take much prep time. I touch base with them and ask routine questions, such as what did you test or how was it tested" (Int. 1). The prosecutor often relies on the experience of the expert in determining whether preparation is necessary. One interviewee said, "With first time expert it is necessary to go over trial process and expectations with cross examination; don't need to do this with routine because they are tried and true" (Int. 4).

Some prosecutors stated that there is little to no preparation time spent on routine experts because of the expert's familiarity with the prosecutor, courtroom, and possibly other members of the courtroom workgroup. When asked if the prosecutor engages in preparation with experts, one interviewee's response was; "not at all. They are routine" (Int. 2). Another interviewee stated, "usually, the expert has testified more than the prosecutor has presented cases" (Int. 19), indicating that preparation is not necessary due to the vast experience of many routine experts. Other interviewees indicated that it may be less about the routine expert, and more about the routine cases. As described by one interviewee, "Sometimes none [no preparation]. With standard BAL (blood alcohol level) there is no prep. Maybe a conversation on the phone, briefly" (Int. 9). Another interviewee said, "[It] depends on the complexity of case, how familiar, how comfortable I am with whether I know expert. I may call someone up who was there two times, very basic 10-15 min for routine experts" (Int. 11).

Preparation of routine experts appears to be done over the phone or communicated through email. As one interviewee described it, "Depending on expert, how often they testify, I will do expert prep over the phone. Block of time, gives questions I am going to ask" (Int. 11). The routine experiences that prosecutors have with experts allows prosecutors to recognize that they know more or less what an expert will testify about, and sometimes the interaction is to get on the same page, and hear about any new information that may come up in a case. One interviewee described this by stating:

> For routine [experts], if it's a person I have not worked with before…after they work there for a while, you have multiple cases. You may just give a phone call,

just checking in about lab results. Anything I need to know? Maybe a half hour with routine (Int. 12)

In most of the interviews, the process of the interactions between the prosecutor and the expert appeared to be similar. Prosecutors look at the report, call the expert, and go over some of the questions that may be addressed at trial. As described by one interviewee, "Routine experts, get a copy of their report, they need to be provided police report. Educate them on facts of the case and look at what they have produced. And talk to them about" (Int. 6). Although most prosecutors indicated that routine expert preparation took much less time, one prosecutor indicated that; "Even if you worked with expert before, nothing is routine…I will learn something and add to the understanding of the case and the expert will learn from me (Int. 16).

If the prosecutor expects that the defense attorney will be calling an expert, and there will be competing testimony, this could also affect the preparation of the witness. Describing psychological experts, one interviewee said, "If you're talking about a psychological expert, the few times we've used those, it definitely would entail more time to meet with them not only about their testimony and strengths of their testimony but the competing expert" (Int. 8). Regarding competing experts one interviewee described, "At times, I spend more time on preparation of cross examination of the defense expert, then in preparation of my expert" (Int. 7).

The preparation of non-routine witnesses appears to take more time for the prosecutor. Aside from the self-preparation that may occur prior to meeting with an expert, if the prosecutor has less familiarity with the expert he or she may engage in more discussions to be sure that they are comfortable with the expert and what the expert will

testify about. One interviewee described this process by stating, “For non-routine experts you learn from them first, then ask questions to understand the facts and the evidence” (Int. 1). Another interviewee said, “Preparation of non-routine requires more time” (Int. 4). A third interviewee explained, “Non-routine [experts]- a lot different. Need to acquaint with subject matter. I will usually have a number of meetings with experts. Exploring the subject, seeing if [it is] consistent with reason you want to put it [the expert] on. [I would have] 6-7 meetings” (Int. 15).

There appears to be less preparation with routine experts, because the prosecutor is familiar with how the expert will testify in court. Often because the prosecutor has worked with the expert multiple times, the prosecutor is also familiar with the science that the expert will discuss during trial. Some preparation still exists, but this may be through a phone call or email to get on the same page. Prosecutors spend much more time preparing with non-routine experts in order to become familiar with both the subject matter as well as the expert.

CHAPTER 7

FINDINGS: MANAGING A LACK OF SCIENTIFIC EVIDENCE

The research question for the current study is concerned with how prosecutors manage scientific evidence during the pretrial phases of a case. This study is interested in addressing how prosecutors manage evidence and also expectations for trials during the pretrial stages of a case to determine how certain types of evidence may impact decision-making. There are a number of studies that address the CSI effect and what the effect this has on juror decision-making (Schwietzer & Saks, 2007; Shelton, Kim, & Barak, 2006; Thomas, 2006; Tyler, 2006). Most of the CSI literature is focused on the outcomes of the case, rather than the process. More specifically, the literature attends to how media and television shows that emphasize criminal investigation impact juror decision-making. However, prosecutorial strategies during pretrial stages of decision-making develop, in part, in order to combat the perceived effect that the media may have on jurors. The earliest draft of the interview questions did not address the perceived effect of juror expectations for scientific evidence, however it became clear after the first interview that the discussion of scientific evidence and expert witness testimony would be incomplete without a full understanding of the way that prosecutors have shifted their early behaviors in anticipation of defense strategy as well as juror expectations. Almost immediately during a discussion of calling expert witnesses, prosecutors stated how they handle the notion that jurors may have specific expectations for scientific evidence. This allowed me to reframe the interview questions to include whether or not prosecutors were calling experts to demonstrate a lack of scientific evidence, or as one interviewee called it, "negative evidence" (Int. 15). This specifically referred to cases where certain types of

scientific evidence were not found when analyzing crime scene evidence because in most cases scientific evidence is not likely to be found.

The perceived "CSI effect" influenced prosecutorial strategies in two specific ways. First, the belief that jurors may bring in external knowledge of criminal justice by way of TV shows and the media prompted prosecutors to ask questions of jurors during voir dire that would address jurors' television viewing habits and their expectations for scientific evidence. Second, prosecutors are concerned about the defense's strategy to address the lack of scientific evidence with a jury and will therefore call an expert to specifically address why DNA or fingerprints were not found at the scene of the crime or on a gun. Taken together, this was described by a couple of interviewees as a cultural shift in how technology has become a pervasive component of every day life and how this issue may present itself in a courtroom.

Voir dire

The voir dire process is a time for attorneys to ask questions of potential jurors to determine if there is some bias that prevents the juror from serving on the jury or coming to a decision about a case. A variety of questions are addressed during this process, but due to the perceived impact of television shows and media on juror decision-making, prosecutors attend to questions about media viewing habits and the impact of this media on the jurors' mentality about a case.

One interviewee described how she approached voir dire by stating, "I ask jurors during voir dire if they watch legal shows. If I don't have scientific evidence, then it is important to identify to the jury that I don't have this type of evidence" (Int. 1). The type of evidence that exists impacts the way that the jurors are addressed during voir dire.

Prosecutors want to set the stage for what the jurors will hear and not what they want to hear or expect to hear. One interviewee explains, "If [I] have mostly circumstantial evidence [then I] address that during voir dire" (Int. 16). This line of questioning or information from a prosecutor attempts to address jurors' expectations from the very beginning of a trial. As described by one interviewee, "You don't know what juror expectations are, you can find out during voir dire if there are false expectations. And attempt to get rid of false expectations…that there are limits to reality" (Int. 7). Another interviewee emphasized that, "[Jurors'] expectations have changed, they have increased over time and that's why you see DNA being done so often" (Int. 17)**.**

The issue during voir dire is not just about finding out and recognizing who may watch this programming, but more specifically, alerting them to the type of evidence that the prosecution has as well as attempting to change the thoughts of the potential jurors in a short span of time. One interviewee explained, "During voir dire, it is important to disabuse jurors of the idea that TV is real. Ask questions about CSI/Law and Order and ask jurors to intellectually and emotionally set it aside and focus on the evidence" (Int. 16). Some prosecutors felt that many jurors were able to move past the inaccuracy of the media programming in order to focus on the evidence in this case. One interviewee said:

> For CSI effect issue, every case tried, as part of voir dire, I ask do you watch TV shows like NCIS and Law and Order? Every jury watches programming, but many respond positively when told that there may not be DNA or hidden camera video, may not be saliva or fingerprints and once you say that to them, jurors state that they know the difference (Int. 11).

The way that prosecutors are handling this notion of a CSI effect during voir dire addresses the ways that scientific evidence is not a "magic bullet" that will always be available to them. It is also important during voir dire to attempt to "rehabilitate" the jurors so that even if jurors do watch those TV shows, there is some attempt by the prosecutor to demonstrate why it is problematic to focus on these types of shows when thinking about the evidence in the case.

Calling experts to testify

Another important aspect of prosecutorial strategies related to the CSI effect is that prosecutors find that it is more reasonable and credible to bring an expert to court to testify about their ability to locate scientific evidence and why such evidence was not found. This often requires the testimony of a lab technician or police officer from the Michigan State Crime Laboratory to specifically address why it is often difficult to find certain types of scientific evidence (e.g. fingerprints on a gun).

This notion of calling an expert to demonstrate why scientific evidence was not found is another prosecutorial strategy that is directly related to jurors' expectations, but also to what prosecutors anticipate for the defense strategy. Whether it is due to juror decision-making or defense strategy, almost all of the prosecutors in this study routinely call experts to show why certain evidence does not exist or was not found in a crime. As one interviewee described, "Oh sure [I call experts to testify about a lack of evidence]. I mean, that's prosecution 101" (Int. 17). The prosecutors are concerned that, in the eyes of the jurors, there will be a perceived lack of evidence because certain types of scientific evidence may not have been found. This perceived lack of evidence could enable the defense strategy to emphasize this issue during closing arguments, which could then

influence the jury toward a not guilty finding. One interviewee said, "Defense has gotten sophisticated (better trial lawyers) to then exaggerate what should have been there and wasn't" (Int. 5). Another interviewee stated, "The defense's job… what they're doing is criticizing or trying to create reasonable doubt" (Int. 13). A third interviewee explained, "Lack of evidence is not good for a prosecutor because it can equal reasonable doubt" (Int. 7).

If the defense or jury perceives that the lack of evidence demonstrates reasonable doubt, then the defense is more likely to address this in closing arguments, and the jury may likely find a person not guilty because of this. One interviewee explained:

> It's a combination of defense strategy and juror expectation [that drives this decision]. I don't want to leave areas for the jury to guess and fill in blanks because they have watched a lot of TV and been conditioned by entertainment industry (Int. 18).

Prosecutors are concerned with how these types of viewing habits or technology could affect decision-making. One interviewee provided a case example and said,

> I had a case with four eyewitnesses that saw a guy shoot a gun (he was felon). Four eyewitnesses saw it, but the jury found him not guilty. The jury was concerned with why the officer didn't send the gun in for prints. Experts can explain that they often don't find prints (Int. 9).

The important issue for prosecutors is not just addressing the lack of scientific evidence at trial but instead strategizing to call an expert to explain to the court the circumstances for the lack of evidence. This issue may be more important in certain types of cases.

When asked if you call experts to show why there may be a lack of evidence, one interviewee responded, "Absolutely. Almost always in child sexual assault cases, I call an expert to show why you wouldn't expect to find DNA. Even though it seems common sense. Jurors want more" (Int. 14).

Prosecutors can and do address these types of issues during opening and closing arguments. However, prosecutors recognize the value in having an expert testify to the jury about the fact that he or she attempted to find scientific evidence, or the expert can explain why it would be unlikely to find scientific evidence in these types of cases. As described by one interviewee:

> It's a lot more credible when an expert says you would never expect to find DNA in this location or fingerprints wouldn't be recovered from this type of a surface or something like that. I've done that a number of times where I have had to call people just as a basis to fight a defense (Int. 8)

Another interviewee described the difficulty with fingerprint evidence by stating:

> Jurors don't realize how hard it is to leave a fingerprint on a piece of evidence. In order to leave a fingerprint on a piece of evidence, you pretty much have to put your hand on it and press down and not smudge it, well no one touches things that way. So yeah, I probably had police officers testify…we dusted for prints, but no prints are identifiable because of this (Int. 12).

Prosecutors call experts for negative evidence and address issues pretrial during voir dire to not only ask the questions but also get a sense of what type of processing may be done with different types of jurors. One interviewee explained:

> The generation from 35 [years old] down is more indoctrinated with technology. Some jurors have more experience with technology than others. We now bring in DNA, fingerprint techs to indicate they did the job and found nothing and what the reasons for that would be. It eliminates predisposition of technology and how things are done. Regardless of whether [we] have a case that has DNA we're bringing in people to show why we didn't find evidence because it makes for a more complete case. (Int. 5)

While scientific evidence is the foundation for recognizing the influence of the CSI effect, calling experts to testify about negative evidence may not only be focused or unique to scientific evidence. As one interviewee described:

> In that sort of strategy that you are talking about I don't know if that is necessarily exclusive to scientific evidence. Many cases you have your officer explain why he was the only one that responded to the scene because resources are low and there's three deputies on the road. So that sort of reverse strategy thinking, yes we have to engage in that sort of strategy to explain why things are [not]…what jurors expect. (Int. 12)

It is not just scientific evidence that the jury may be expecting. One interviewee emphasized that, "Another expectation is video (Int. 16). Jurors may struggle with the fact that we have so much technology at our fingertips, yet often the technology that jurors expect is not addressed in the courtroom. Regarding juror decision-making, one interviewee said:

> I'm sure it's traumatic to be on a jury and it's a natural response to say, gosh I wish they would have just videotaped that confession so we don't have to sit here

> and decide if the defendant or cop is telling truth about what he said in interview room (Int. 12).

Prosecutors are concerned with the way that the media and technology can affect juror decision-making and this concern and an adaptive strategy was reiterated by almost all of the prosecutors. One interviewee in particular emphasized the way that we may process information that may affect juror decision-making by stating:

> When you talk about laziness [of jury members], it's not a product of lack of desire, it's a product of the changing culture of how information is received and processed and it's much less developed in listening to a story and following and dissecting (Int. 13).

Prosecutors overwhelmingly stated that there is a need to call experts to demonstrate why certain scientific evidence was not found at the scene of the crime. This appears to be an adaptive strategy to both jurors' expectations and defense attorneys' strategies at trial. Resources of both prosecutors' offices, as well as the resources of the crime lab technician that would routinely testify about this type of negative evidence can affect calling experts to testify about this lack of evidence.

CHAPTER 8

DISCUSSION AND CONCLUSIONS

Discussion

Past research on prosecutors indicates that evidence influences decision-making from charging decisions, to plea negotiations, to calling experts (Alschuler, 1968; Bibas, 2004; Albonetti, 1986; Burke, 2005; Cole, 1984). Many factors influence prosecutors' ability to make decisions about a case. In the present study, the emphasis on scientific evidence and expert testimony demonstrates that while there are a host of factors that influence decision making during the pretrial stages of a case, several factors were identified as important. Strategies for prosecutors relied on resources that are available to prosecutors, the communication between defense attorneys, judges, and prosecutors, how prosecutors prepare themselves and experts, and how prosecutors manage cases that lack scientific evidence.

Resources. Resources play a role in every decision an assistant prosecutor makes but expectedly, resources were less of a significant factor when the case being handled was serious, including such cases as homicide, sexual assault, and cases involving children. Some counties in this study appeared to have more resources than others based on their locations, and comments made during interviews. Assistant prosecutors from all of the counties did discuss budget constraints, but many stated that if the case were serious there would be resources allocated to those cases. The lack of resources for crime labs may present a more significant finding for this research. Given that prosecutors have adapted their strategies to include experts to demonstrate a lack of evidence, this strategy affects the resources of the state crime labs. The crime labs often provide the routine experts who

are expected to testify to the jury that they attempted to locate the evidence (e.g. fingerprints on a gun), but that due to specific factors (e.g. moisture, surface characteristics, etc.) the analyst was unable to find this evidence. This strategy for prosecutors is based in large part on juror expectations. If prosecutors are recognizing that jurors want more scientific evidence in order to obtain a guilty verdict, they prepare for cases with concern for how jurors may perceive the evidence that prosecutors have. In effect, state crime labs may continue to struggle to keep up with the demand that prosecutors may put on these employees in these circumstances. Currently, the Michigan State Police Crime labs have a backlog, particularly for DNA analysis, that can be anywhere from 8 months to 1 year long. The backlog of analyzing this evidence can become a problem for prosecutors who may have to wait to charge a suspect or go forward with a case without this type of evidence. Additionally, the lack of resources of state crime labs ultimately affects the resources of prosecutors' offices. As demonstrated in the findings, prosecutors are required to use their own budget to hire an outside expert in circumstances where the MSP lacks resources. If MSP does not have an expert about a particular type of science, or if the routine expert does not have time to testify, then prosecutors must hire outside experts in order to prepare an effective case to present at trial. The issue of resources appears to be somewhat complex. It is not just the limited resources of the prosecutor's office, but also the limited resources of the state crime labs, where most of the routine experts come from.

The limited resources of a prosecutor's office may be more important than the type of evidence in the way that decisions are made about plea-bargaining. Some prosecutors emphasized that scientific evidence can be very strong evidence, which could

likely create a situation where the defense attorney will not be able to overcome the evidence and thus decides to negotiate a plea. Previous research by Hessick and Saujani (2002) emphasizes that evidence and the strength of the evidence will have a direct impact on whether the attorneys communicate about plea negotiations. Additionally, plea negotiations are often decided in order to make the system more efficient (Hessick & Saujani, 2002).

The results of the present study are consistent with this literature and demonstrate that the type of evidence is important if it is the ultimate issue in the case. If scientific evidence corroborates other evidence, it is considered strong, but not it may not be the "magic bullet" that some people perceive. Many prosecutors stated that DNA is one of the stronger pieces of scientific evidence. However, even in cases where DNA was introduced as evidence, prosecutors stated that it is especially significant for obtaining pleas when it was a major piece of evidence. For example, DNA and other scientific evidence, is extremely important and influential to a defense attorney when the evidence demonstrated identity (e.g. DNA match). Thus, assistant prosecutors in this study stated that scientific evidence may not be the only type of evidence or the most important evidence that will cause a defense attorney to want to negotiate a plea.

Plea negotiations. Many prosecutors stated that the plea negotiation process begins with the defense attorney. Previous research by Eisenstein and Jacob (1977), and Eisenstein et al. (1999) indicate that the organizational environment of the courtroom workgroup involves cooperation and that the closeness of the relationship between these two courtroom actors helps to determine how a case will proceed (Eisenstein & Jacob, 1977). The characteristics of the external environment will also often dictate the relationship

between the defense attorney and prosecutor. Oakland County has an informal policy about plea negotiations in that it is often the practice to not enter into plea negotiations with a defense attorney, particularly for very serious cases. Oakland County also has many more resources than some of the other counties included in this study. Therefore, perhaps it is not the scientific evidence that could drive a plea negotiation, but instead the resources of the county may play a more significant role.

According to the findings in this study, prosecutors seem to rely on defense attorneys to determine plea negotiations, so early communication between a defense attorney and prosecutors are ultimately focused on the rules of discovery. Prosecutors are concerned with providing the case details to the defense attorney and based on the evidence, resources of the defense attorney, and other factors, defense attorneys will often make the determination that the defendant wants to plead guilty. This study cannot address this process, because it was limited to speaking with prosecutors and did not include defense attorneys. Future research could focus on the defense attorneys' strategies based on scientific evidence, and will be further discussed below.

Admissibility. Previous literature regarding the admissibility of scientific evidence emphasizes that the judge plays the most important role as the gatekeeper, who must determine if scientific expertise is valid and reliable, following the standards set forth by *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993). Although this gatekeeper role is utilized in some cases, in many cases, judges play a more passive role in the process. It is up to the attorneys to challenge the scientific evidence, and if it is not a new or novel science, many times there are not challenges that are made. It would seem that the findings obtained in this study were consistent with the literature about the judge

maintaining a powerful role regarding scientific evidence, but perhaps a role that is not utilized in most cases. If scientific evidence such as fingerprinting, DNA, and ballistics has been frequently used in the courtroom, there is little reason to believe that these types of evidence will be challenged in front of a judge based on the science. Instead, it appears that the challenge of an expert may come from the credentials of the expert as opposed to the science itself. However, novel science or soft sciences may be more likely to be challenged in the courtroom.

Previous literature by Kovera & McAuliff, (2000) indicate that judges may need to become more educated and knowledgeable about scientific standards; but judges may lack this knowledge (Gatowski, et al., 2001). This is important to consider given the new technologies that are being continually developed in order to aid the state with a criminal case. Judges are not trained in the scientific method, but are required to analyze expert evidence using the scientific method. It is this standard that a judge must use in determining if a novel science is valid and reliable. This aspect of judges' roles in this process could have implications for how experts are ultimately presented by attorneys. However, in the current study the communication with judges about scientific evidence and the admissibility of that evidence was not very common.

Preparation. There was little to no previous literature to address specifically how prosecutors prepare expert witness testimony. Some previous literature addresses aspects of civil cases where expert witness testimony was determined to have an impact on jurors (Champagne, Shuman, and Whitaker, 1992, 1994, 1996). This literature focuses on the presentation style of an expert, as well as the content of the testimony, which could come from interactions with attorneys. This study was concerned with the backstage processes

that occur before the presentation in the front stage. The focus on the backstage processes in this study demonstrates an important contribution to the literature. The findings here suggest several interesting approaches that prosecutors take in gaining knowledge about scientific evidence and preparing experts during in this backstage environment.

The notion of self-preparation is very important for prosecutors who have to contend with scientific evidence, particularly with evidence that they have not encountered previously. Prosecutors bear the burden of proof in a courtroom, so it makes sense that prosecutors will feel that they must gain as much knowledge as possible about a case. Prosecutors want to be prepared to not only present the evidence and their expert, but also feel comfortable potentially cross-examining a defense attorney's expert.

Additionally, it appears that prosecutors recognize that they are the directors of the performance, including an expert's performance at trial. Therefore, there are two aspects to preparation that may be important. The first is the self-preparation itself; that prosecutors will read articles and get to know the science to be comfortable addressing it in court. Secondly, this preparation is also about how a prosecutor will present himself or herself, along with an expert, to a jury during trial. Presentation is often more important than calling the right witnesses, and prosecutors are aware that the jury may make decisions based on the presentation style of both the prosecutor and the expert.

This assessment goes beyond the scope of this research, but it does address the theoretical framework from a different perspective. The focus of this study was on the backstage processes, which include the self-preparation that a prosecutor conducts. Additionally, the preparation about the presentation that was described by prosecutors also emphasizes backstage discussions between prosecutors and experts. In this sense,

prosecutors prepared themselves and experts in the backstage but it also provides information about presenting in the front stage (to the jury). Presentation of self appears to be an important consideration for prosecutors who consider how a jury may perceive an expert, as an extension of the prosecutor.

Courtroom sub-workgroup. It was evident from the findings that prosecutors spend much less time preparing routine experts, such as crime lab employees, compared with non-routine experts. Several prosecutors indicated that these experts have more experience in the courtroom than some of the courtroom workgroup members. This finding indicates that perhaps the routine experts are a component of the courtroom workgroup that understand the rules (both formal and informal), procedures, and the other actors involved. However, considering that the expert has little to no interaction with the judge or defense attorney in the pretrial process, it appears that routine experts could be considered as part of a sub-workgroup with the prosecutor particularly during the backstage preparations. Relying on previous literature regarding the courtroom workgroup, the relationships between members of the courtroom workgroup are extremely important in helping to dispose of a case (Eisenstein & Jacob, 1977). Based on the current study, it appears that routine experts help the court dispose of a case by testifying during the trial. Eisenstein and Jacob (1977) outline several important factors to describe the courtroom workgroup that can be applied to this sub-workgroup. The characteristics of the workgroup described by the authors reflect the courtroom workgroup as well as other organizational environments. According to Eisenstein and Jacob (1977), the courtroom workgroup actors display these characteristics:

1. "They exhibit authority relationships

2. “They display influence relationships, which modify the authority relationships.
3. “They are held together by common goals
4. “They have specialized roles
5. “They use a variety of work techniques
6. “They engage in a variety of tasks
7. “They have different degrees of stability and familiarity” (Eisenstein & Jacob, 1977, p. 20).

Each of these characteristics can apply to the relationship between a prosecutor and an expert. Prosecutors are the authority regarding legal rules and procedure, but experts are the authority on the subject matter. As described in the findings, prosecutors and experts engage in reciprocal education, whereby each person has a specific authority and knowledge regarding a case. The interactions between prosecutors and experts also clearly display influence relationships, such that prosecutors will influence experts on ways to present material, thus demonstrating prosecutors’ authority in the context of courtroom procedures. Similarly, experts influence prosecutors about the subject matter and how to understand and explain it by emphasizing the routine experts’ authority. The common goal for both expert and prosecutor is to convey information to the court accurately, regarding scientific evidence. Additionally, experts and prosecutors display specialized roles in the way that a prosecutor may direct the experts’ knowledge or to ask specific question of the expert. The work techniques of this relationship may help to understand the multiple methods of communication that are utilized by prosecutors and routine experts once a case is established. Similarly, these interactions indicate that both

experts and prosecutors engage in a multiple tasks backstage that will influence the front stage aspects of a case. Lastly, prosecutors interact with multiple routine experts regularly and these interactions can be examined to determine how familiar the prosecutor and routine expert are with one another. The number of cases that prosecutors conduct with the routine expert can influence the stability and familiarity of their relationship. Prosecutors may call or email an expert about the case, which may not indicate joint decision-making or strategies, but does emphasize the close relationship that the prosecutor may feel with the expert. It also indicates that most routine experts are very familiar with the courtroom, court etiquette and how to testify. They do not require preparation on these types of issues, and often discuss the basic components of their testimony with the prosecutor. It appears that prosecutors and routine experts have a parallel relationship to the courtroom workgroup based on familiarity, shared expectations, and knowledge that are used to efficiently handle a case pretrial. Their interactions require minimal expenditure of time and communication. Consistent with Eisenstein and Jacob (1977), prosecutors in this study emphasized several characteristics about their relationship with experts that could indicate a sub work-group organizational context.

CSI effect. Research on the CSI effect indicates that jurors may have high and unrealistic expectations about the existence and presentation of scientific evidence. Although some of the research does indicate higher expectations (Shelton et al., 2006; Tyler, 2006), other research has demonstrated that either there is no such effect or that it is a broader technology effect rather than strictly limited to media issues (Shelton, et al. 2006). Consistent with the literature by Shelton et al. (2006), a broader tech effect may provide a

fuller understanding of what is happening with jurors' expectations. The authors state that popular culture has changed and there are advances in technology that allow people to access information differently (Shelton, et al., 2006). Two prosecutors in this study addressed this issue by stating that they do focus on how jurors may process information differently because of technology. Based on this belief, these prosecutors made decisions during voir tire to account for the notion of information processing. Perhaps the effect experienced by potential jurors is less about the media and more about a cultural shift in how contemporary Americans process information and how they expect to see criminal cases handled in court based on increased technology. While this was not a consistent message provided by all prosecutors, the findings from this study provide preliminary support for Shelton et al. (2006).

Thomas (2006) stated that whether the CSI effect exists or not, prosecutors are changing their behavior to account for this effect. Prosecutors anticipate jurors' expectations to be high for scientific evidence, and prosecutors in Thomas' study have thus changed their strategies for approaching these types of cases. Consistent with Thomas (2006), this study found that nearly all of the prosecutors in this study address media viewing habits in voir dire and attempt to influence jurors by explaining the inaccuracy of television programs. Most prosecutors also called experts to demonstrate to the jury that the expert attempted to locate scientific evidence. When the evidence was not found the expert explained why it is not possible to have scientific evidence due to the circumstances of the crime. Although the interactions with jurors during voir dire technically are occurring in the front stage (in front of the audience), the preparation of questions for voir dire is a backstage process of the prosecutor.

Limitations of the study

A major limitation of this study is the lack of previous research regarding the interactions between prosecutors and experts in a criminal court context. Although this ultimately led to the research question as well as the exploratory nature of the project, it was also problematic in having a foundation from which to work. Goffman's theory on presentation of self and backstage process provided a foundational framework, but there was no previous information about what these interactions between prosecutors and experts may look like. Although prosecutors who were interviewed suggested some interesting experiences, it would have been helpful to understand these experiences in the context of previous literature.

Another limitation of the study is that the focus on the backstage processes includes other court actors who were not interviewed for this project. While prosecutors' strategies were the focus of the study, when asking prosecutors about their interactions with experts, it became clear that the experts also have information about these interactions with prosecutors. Routine experts would also be able to discuss the issue regarding lack of resources and how this has influenced experts' ability to testify and analyze evidence. In order to get more in-depth explanations for the interactions between the prosecutor and the expert witness, it would be necessary to also interview routine experts to obtain information about this process. Additionally, if resources are indeed constraining experts, which then influences prosecutors, it would be helpful to get that information from the experts themselves. Additionally, for a more in-depth understanding of the plea negotiation process regarding scientific evidence, it would be important to speak with defense attorneys about their experiences during this process. Although

prosecutors were able to describe some of the details of the plea negotiation process, many prosecutors indicated that defense attorneys initiate many of these plea decisions. Without gaining a full understanding it is difficult for this study to address claims about how scientific evidence influences plea negotiations.

Regarding methodology and retrieving participants, a limitation with this study is that it only included assistant prosecutors in Michigan. According to Eisenstein, Flemming, and Nardulli (1999), courts are communities and each court or jurisdiction may have different resources, goals, and informal practices. While it appears that the Michigan counties that were included in this study function similarly in terms of preparation, resources can affect various counties differently. Given the exploratory nature of this study, this study is unable to determine how specific resources affected prosecutors in different ways.

Another limitation for this study being conducted only in Michigan is that other states' laws and procedures might influence certain pretrial processes differently. For instance, although many prosecutors discussed *Daubert* hearings, it was rare for many of them to have personal experiences conducting *Daubert* hearings. Michigan began using the *Daubert* standard in 2004. By solely focusing on Michigan this study is unable to determine the frequency of *Daubert* or other admissibility hearings in other states, where a judge may play a more active role in this process. Additionally, Michigan has a centralized state police system where routine experts are employed. Other states may conduct their investigations and evidence gathering differently than Michigan thereby producing different relationships between prosecutors and routine experts. It is unclear

from this study if the sub-workgroup relationship described above would apply to other states.

Directions for future research

This study and the limitations of the study lay the foundation for potential issues and topics to study in the future. Given that one of the limitations was that I only spoke with prosecutors about their experiences, a possible direction for future research would be to expand the interview process to include routine experts and defense attorneys. It was indicated in this study that experts often educate prosecutors more often than prosecutors educate experts. The role of an expert is extremely important in determining the way the interactions occur between these two actors. By interviewing experts, one would be able to gain a more in depth understanding of the interactions and communication that occur prior to experts testifying about scientific evidence.

The potential for this future research could also focus on some of the decisions that are made about collecting and analyzing DNA. The recent United States Supreme Court decision *Maryland v. King* (2013), decided that police officers that arrest a suspect of a serious crime could collect DNA samples from those arrestees when they are brought into custody, similar to taking fingerprints (*Maryland v. King,* 2013). Given that there is a backlog of DNA analysis in many jurisdictions including Michigan, there could be a potential to increase this backlog even more by including and analyzing arrestees' DNA. Interviewing routine experts at the Michigan State Police crime labs could provide the appropriate information to determine if this could be problematic for the criminal justice system.

Another direction for future research related to the courtroom workgroup is to develop a study of defense attorneys. Given the frequency of plea-bargaining in the United States it may be important to determine the types of information and evidence that defense attorneys and defendants find most influential. Prosecutors in this study emphasized that defense attorneys make many of these initial decisions about plea-bargaining. Thus, this study is unable to accurately determine how that backstage process is viewed from the perspective of a defense attorney, whose job it is to make those decisions. Interviews with defense attorneys about scientific evidence and the influence on plea negotiations would provide a more robust understanding of this process. Additionally, given that resources influence decision-making, it would be interesting to determine the effect of resources on court-appointed defense attorneys regarding their ability to call experts. The potential for future research could provide implications for justice regarding the different

The literature on the CSI effect is worthy of a discussion in this study based on the unique strategies that prosecutors may employ in cases where the perception of juror expectations appear unrealistic. This study may contribute a small piece to the CSI effect literature by focusing on the way that people process information. For instance, perhaps people are much more visual now with the access to different methods of technology that can show people images. Prosecutors in this study shifted some strategies to account for the visual processor. One specific example was two prosecutors who stated that when speaking about DNA results, jurors who hear statistics such as there is a 1 in 1 trillion chance that the defendant did not provide that DNA may not get the full effect. Therefore, these prosecutors will write out the number of zeroes in 1 trillion to provide a

more significant impact. If there is a cultural change in society with how Americans process information because of technology, the notion of the CSI effect will likely not be omitted any time soon from our courtrooms and prosecutorial strategies. Future directions for research could explore this topic further by examining jurors and the way that different jurors may perceive information rather than a focus on the type of media that he or she may watch.

Conclusion

This study was concerned with how prosecutors interact with and strategize about scientific expert evidence. Goffman's presentation of self provided an important framework for this research. By focusing on the backstage pretrial processes, this research was able to explore some of the influential strategies that occur before a prosecutor steps into a courtroom in front of an audience. The front stage presentation follows from the significant preparation that must be well thought out and analyzed away from the audience. Managing resources, understanding and preparing scientific evidence, and interacting with an expert are all significant components of prosecutors' routines that are not commonly observed in the courtroom or by the public. Goffman's backstage analysis was used as a framework to orient the interview questions, but ultimately this research utilized a grounded theory methodology to explore a topic that is not well understood in the literature.

Prosecutorial decision-making is necessary to explore in the context of scientific evidence, given the importance that the public, and the courts, can often place on this type of evidence. Scientific evidence can be powerful and influential for prosecutors in obtaining guilty pleas and verdicts. This research regarding the strategic interactions

between prosecutors and routine scientific experts yielded interesting results that help to provide a more thorough understanding of the way that these actors work together in an organizational environment. Although experts are not generally understood as courtroom workgroup members, prosecutors and experts share important courtroom workgroup characteristics that affect the way that many criminal cases are managed.

This research was able to shed some light on how prosecutors handle cases with expert scientific evidence. However, it is exploratory and limited in scope. Therefore, this study lays the foundation for future research to more fully understand the strategies employed by prosecutors. The importance of prosecutorial strategies should not be taken for granted, as prosecutors must make several important and influential decisions about criminal cases on a daily basis. These decisions carry a heavy burden, because they impact the efficiency of the criminal justice system as well as the lives of those affected by crime.

APPENDICES

Appendix A:

Original Interview Schedule

1. How long have you worked/did you work as an assistant prosecutor?
2. Have you ever used expert witnesses?
3. Have you had cases that utilize scientific evidence (but not necessarily experts)?
4. Approximately how many of the cases that you have handled have used scientific evidence? Expert witness testimony?
5. Which types of cases tend to utilize scientific testimony?
6. How early in the process does the possible use of scientific evidence arise?
7. Does the subject of scientific evidence arise in pretrial communications with defense attorneys? Judges?
8. What factors influence your decision to call experts?
9. How do you go about determining which expert to use for each case?
10. Do you know which experts to call based on the nature of the evidence? Do you regularly use the same experts for similar types of cases? Does this change the way that you prepare the expert witness?
11. Do you engage in preparation of the witness?
12. How much time do you spend preparing the expert?
13. Is there a different preparation process for routine experts (those that are regularly called to testify in routine cases)?

Appendix B:

Revised Interview Questions

1. Have you ever called experts to show why there may be a lack of evidence? Is this common? Is this because of jurors' expectations?
2. How do you prepare expert witnesses?
3. Is it more likely for you to take a case with scientific evidence to trial? Is this a significant factor in the decision to take a case forward as opposed to negotiations?
4. Are there some types of scientific evidence that you would consider stronger than others? How does that change the way that you approach a case?
5. What type of evidence seems to be most influential to defendants?
6. What factors influence your decision to call experts? (i.e. other evidence, budget, resources, etc.).
7. How do resources impact your ability to call experts?

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