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The phenomenon called the CSI effect has recently occupied a central place in the media. The media and scholars alike have taken an interest in the effect that forensic television shows are having on the public, particularly its effect on American juries. There have been several anecdotal accounts documenting how the CSI effect has impacted the legal system. There have been far fewer scholarly inquiries into the CSI effect. The evidence from both academic and anecdotal accounts is mixed. While there is some research on the CSI effect and juries, there are no existing studies examining how the CSI effect has influenced the perceptions of law enforcement officers. This is surprising given that police officers are the first to arrive crime scenes and are tasked with the responsibility of solving crime. The aims of this exploratory study were twofold: first, to examine the attitudes and beliefs about the existence of a CSI effect among law enforcement officers in North Carolina, and secondly, to examine professional, institutional, and procedural changes, if any, these same officers have made as a result of any perceived CSI effect.

This study utilized a self-administered web survey which was distributed to 455 law enforcement agencies in North Carolina, including Federal, State, County, Local, Campus, and special law enforcement jurisdictions. The survey was administered in such a way that each agency could respond only once. Two hundred sixty four agencies returned the survey, a 58% response rate.

The results of the study reveal that law enforcement perceive a CSI effect exist among the public. Those law enforcement officers in North Carolina who were surveyed, reported a concern in the lack of evidence in criminal investigations over the past five years. Respondents also reported that attorneys are addressing the forensic science issues in their trial arguments more often now than in the past five years. The results of this study also revealed that law enforcement officers over the past five years have made changes in the ways they handle criminal investigations. These results reveal support for the existence of a CSI effect, as perceived by law enforcement officers.

Open-ended questions allowed respondents to offer more detail of cases where respondents believed a CSI effect changed the outcome of a criminal investigation. Many of the responses to the open ended questions indicated law enforcement were being questioned more frequently than in the past about what kinds of evidence were collected and what types of training the respondents had received. The results of this study constitute the first scholarly based research demonstrating support that law enforcement officers believe in the existence of a CSI effect.

NORTH CAROLINA LAW ENFORCEMENT OFFICERS'
PERCEPTIONS REGARDING THE CSI EFFECT

by

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CHAPTER I

THE CSI EFFECT, MEDIA INFLUENCE, AND LAW ENFORCEMENT PERCEPTIONS

The media play an important role in shaping the public's conception of the world around them. The recent surge of the entertainment media's focus on forensic crime investigation raises some intriguing possibilities about how the public's perception of forensics is being shaped and changed by television dramatizations. The criminal justice system is affected by public opinion, and public opinion is shaped, to some extent, by the media. Lately there have been published concerns that the increased emphasis on forensics by the entertainment media may create misperceptions about real life criminal justice practices (Cole & Dioso, 2005; Roane, 2005; Willing, 2004). Researchers have labeled this media - induced public perception as the CSI effect, a term derived from the popular television show, and other forensic science based entertainment programming. These studies have primarily addressed the concerns lawyers have in explaining the reality of forensics to jurors and questioning juror's beliefs about the forensic sciences (Cather, 2004; Watkins, 2004).

What remains unexplored in the research of the CSI effect is how perceptions of the CSI effect shape law enforcement practices. While the CSI effect has been widely discussed in the popular press, there is little objective evidence demonstrating that the effect exists (Tyler, 2006). This research will not explore the existence of a CSI effect, per se; rather this study will explore whether law enforcement officers in North Carolina

perceive a CSI effect to exist. In addition, this study queries police officers on the extent to which the alleged CSI effect has altered real life law enforcement practices.

Media effects on juror decisions have been recognized as an important factor in trial outcomes (Podlas, 2001; Podlas, 2006a). What is needed now is research tapping law enforcement's opinion regarding the public's expectations for criminal justice because of this "CSI culture." Perhaps even more salient is understanding the extent to which criminal justice officials have actually changed their practices to accommodate a changing public. Television drama is not real life. On the television show CSI, the crime scene investigator is a blend of police officer, forensic scientist, and crime scene investigator. In reality different individuals fulfill these rolls. Will the influence of CSI shows allow defense attorneys to call the criminal justice process itself into question, and ultimately hold police and prosecutors to a different, and higher, television- driven standard? This study will help illuminate the connections between fictional stories about law enforcement, public perception and real law enforcement practices.

Media Depicting Crime and Society

Why is the study of crime, justice, and the media important? Pick up today's newspaper and look at the television programming section. Note the number of television shows that depict crime fighting, forensic science, and solving crime. The same sorts of media stories can be found in magazines, novels, and movies. From fictional to realistic accounts, crime fighting and criminal investigations permeate our media. An important side effect of all the media hype surrounding criminal investigation is the effect the media has on criminal justice policy. Today's "Amber Alerts," "Megan's Law," and "Three

Strike” legislation can all be attributed to the media’s coverage of these high profile issues (Surrette, 1998).

Today, virtually everyone has access to some form of media: the internet, television, newspapers, and movies. Through such media, the public repeatedly peers into law enforcement operations, whether they are real or fictional. Surrette (1998) notes a recent development in the contemporary media called “looping.” Looping results when events and information are repeatedly cycled and recycled through the media into the culture to reemerge in new contexts in differing media. This looping results in the blurring of fact and fiction. Such effects are particularly common in the criminal justice arena. Today, crime and criminal investigations flood the media, and the media in turn influences criminal investigations (Surrette, 1998). Criminal investigation programming allegedly is having an impact in the real world. According to many newspapers and magazines, the public thinks every crime can be solved using forensic technology, just like on television (Blankstein & Guccione, 2005; Booth, 2005; Bowman, 2005; Cole & Dioso, 2005; Dribben, 2007; Hannah, 2002; Krift, 2006; Mohandessi, 2006; Stockwell, 2005; Willing, 2004).

The “CSI Effect”

The television show *CSI: Crime Scene Investigation*, a law enforcement based program that emphasizes the use of forensic science and evidence to solve crimes, first aired on nationally syndicated television in 2000 (<http://www.cbs.com/primetime/csi>). Since then *CSI*, along with the recent spin-offs: *CSI Miami* and *CSI New York*, have consistently ranked in the top ten most nationally-viewed television programs (Nielsen

Media Ratings). In addition to CSI there have been other forensic television shows aired since 2000. CBS's *Without a Trace*, *Numbers*, *Criminal Minds*, and *Navy NCIS* are just a few. TNT has aired the *Closer*, NBC, *Crossing Jordan*, and Fox has aired *Bones*. The 2007 television season premier surely will debut new forensic crime investigation programs depicting the police and their role as crime investigators.

In short, the CSI effect is the impact that television programming has had on the people who view these shows and their subsequent exaggerated expectations for real criminal justice practices. Scholars testing the CSI effect claim the unrealistic ideas about forensic science, as seen on television, cause CSI viewers to have unrealistic views of forensic evidence presented in actual criminal trials. As a result, the CSI effect may lead jurors to acquit defendants based on their perceptions of the criminal justice system as flawed (Pyrek, 2007). According to Nielsen Media Research (2008), *CSI* is watched by more than 60 million viewers. Viewers of the CSI spin-off shows could inflate this number even further. This means that millions of potential jurors are being exposed to fictional television depictions of forensics and criminal investigations.

Researchers and practitioners on both sides of the issue disagree as to whether or not the CSI effect actually exists (Cather, 2004; Podlas, 2006a, 2006b; Watkins, 2004). Prosecutors claim that the CSI effect does indeed exist, creating unrealistic expectations in jurors' minds about the type of forensic evidence that must be produced at trial in order to achieve proof beyond a reasonable doubt. This claim is supported by anecdotal evidence (Cather, 2004; Starrs, 2005; Thomas, 2005). On the other hand, the limited scholarly research into the CSI effect has revealed that if there is a CSI effect it tends to

help, not hinder, the prosecution (Podlas, 2006a). Although there is no conclusive evidence supporting a CSI effect, the anecdotal evidence overwhelmingly suggests that members of law enforcement believe in the CSI effect (Blankstein & Guccione, 2005; Booth, 2005; Bowman, 2005; Cole & Dioso, 2005; Dribben, 2007; Hannah, 2002; Krift, 2006; Mohandessi, 2006; Stockwell, 2005; Willing, 2004). The existence of a CSI effect is not what is important and is not the focus of this study. If law enforcement believe that a CSI effect exists then changes in the way law enforcement investigate crime could occur.

The Media's Influence on the Perception of Law Enforcement

The media play an important role in citizen attitudes toward law enforcement agencies (Dowler, 2002). News broadcast and print news media rely heavily on police agencies for information and tend to favor crime stories in their coverage. It is common for the first few minutes of any news broadcast to feature the crime stories of the day. Pick up any newspaper and you will find that it is inundated with stories of murder, robbery, and mayhem. Additionally, crime dramas involving forensics and criminal investigations are a staple of mainstream television programming (Dowler, 2002).

Depictions of law enforcement officers are often over-dramatized and romanticized by television, while the news, both print and media, often portray the police as paladins and professional crime fighters (Allen & Reiner, 2001; Surette, 1998). At the center of the CSI effect is the glorification of the forensic sciences the media has given to the popular forensic shows (Botluck & Mitchell, 2005). The popular forensic television programming depicts law enforcement officers using state-of-the-art equipment to link

suspects to a crime all in under an hour. High-profile crimes, seemingly impossible to solve, are processed and analyzed with cutting-edge technology and super-fast forensics, solving crime episode after episode. Botluck and Mitchell (2005) claim the following:

As television educated America about the role of forensic evidence in the law enforcement system, the legal community found itself adapting as juries began finding reasonable doubt when the state did not produce 'Sufficient' forensic evidence. (p. 3)

The television show CSI and its spin-offs portray every detail about forensic science, from the collection and analysis of evidence to the suspect being linked to the crime by the evidence (Pyrek, 2007). The image of law enforcement portrayed by television is usually positive (Dowler, 2002). Just like on television, the primary function of the crime scene investigator is to document the scene with adequate and appropriate methods, relay findings from the scene to other members of the investigative team, and to testify in court as to the evidence witnessed at the crime scene (Ogle, 2007). The crime scene investigator may be the patrol officer patrolling the streets, or as typically seen in the media, the member of the investigative team, dressed out with fancy gadgets and state of the art evidence collection tools. Although many large law enforcement agencies in the United States have specialized mobile crime scene units, or criminalists, the majority of police agencies do not (Gilbert, 2007). The concept of the popular shows CSI and its spinoffs is simple: police departments with specialized crime scene investigators are able to more completely serve the citizens by ensuring that only the most competent and technologically-equipped personnel will be gathering evidence from crime scenes (Gilbert, 2007).

Law Enforcement Perceptions of the CSI Effect

Anecdotal evidence is often cited asserting a CSI effect, but no scientific research has been published on how the perception of the CSI effect affects law enforcement (Blankstein & Guccione, 2005; Booth, 2005; Bowman, 2005; Cole & Dioso, 2005; Dribben, 2007; Hannah, 2002; Himmelberg, 2007; Krift, 2006; Mohandessi, 2006; Rivas, 2007; Stockwell, 2005; Willing, 2004). Law enforcement is the first responder to crime scenes and officers are often the first contact with victims of crime. CSI and other forensic-based television programs do not simply influence viewers: they shape practices and situations in the criminal justice system itself. For several years now, those asserting a CSI effect have contended that the forensic programming on mainstream television creates unrealistic expectations about the “real life” crime scene investigation (Cather, 2004; Starrs, 2005; Thomas, 2005).

Law enforcement is a public service profession. This is particularly important at a time when American police departments across the country are making significant changes in their daily operation to reflect the demands and needs of their local community. Public opinion drives governmental policy and in turn police practices. Community policing is one example of police efforts to bring law enforcement closer to the people they serve. In this sense, community policing has its roots deep in American democracy. American localism in institutional design dictates that public services should be tailored to the needs of local residents (He, Zhao, & Lovrich, 2002). With the current media inundating viewers with forensic science and programs depicting the police not only as crime fighters, but as forensic scientists, police departments across America may

be forced to address how they collect and process evidence from crime scenes. If viewers of CSI and the other forensic programs on mainstream television believe that what they see on television depicts real police work then questions will arise as to why the police cannot solve crime with the same technology and efficiency as seen on television. If fictional depictions of criminal investigators are blurred with the reality of criminal investigators, then the structure of police work and how criminal investigations are conducted may change. Several of the general questions raised in this introduction have been addressed by researchers. While some of the topics have been studied, there is no scholarly research on how the CSI effect impacts law enforcement. The following section will evaluate available literature on the CSI effect in an attempt to answer a number of the questions posed in the introduction.

CHAPTER II

THE CSI EFFECT: A LITERATURE REVIEW

The literature reviewed in this chapter covers several key topics related to the issues of this study including the media's depiction of forensic science, anecdotal evidence and scholarly research investigating the CSI effect. This chapter discusses the theoretical perspective used in this study. It is important to point out that this study does not involve theory testing. Rather, theory is employed here to guide inquiry and assist in interpreting results. First, I will review studies that support a CSI effect, then studies that do not support a CSI effect. Next, I will explore theoretical perspectives that explain the CSI effect. Finally, I review some literature that captures law enforcements perception of the public. For clarity I reiterate that this study is not concerned with whether or not the CSI effect exists. This study aims to explore beliefs in a CSI effect by law enforcement and what implications on investigative practices these beliefs may have.

Studies in Support of a CSI Effect

There has been little scholarly research on the subject of the "CSI" Effect. What little does exist is contradictory (Cather, 2004; Podlas, 2006a, 2006b; Thomas, 2005; Watkins, 2004). To date, there has been no scholarly research into the law enforcement perceptions of the CSI effect or the influence the alleged CSI effect may be having on law enforcement. Much of the evidence that supports the CSI effect is from prosecutors and is anecdotal (Blankstein & Guccione, 2005; Booth, 2006; Bowman, 2005; Cole &

Dioso, 2005; Hannah, 2002; Krift, 2006; Neff, 2006; Rivas, 2007; Roane, 2005; Willing, 2004).

In a scientific study that addressed the effects of CSI programming on attorneys, Michael Watkins (2004) discovered the profound impact the media has on the public's perception of the forensic sciences. Watkins (2004) acknowledges that most citizens called for jury duty know very little about how law enforcement uses forensic science in criminal investigations. The study (Watkins, 2004) hypothesizes that the media serves as the primary source of information for the public and that what potential jurors know of the forensic sciences they learned on television (Watkins, 2004). To evaluate the changes, if any, attorneys had made in trial preparation as a result of the popular forensic television dramas, a survey instrument was distributed to 53 prosecutors and defense attorneys in a medium-sized Florida county courthouse. The results showed there was a common belief among the attorneys that crime scene television dramas create unrealistic expectations and, as a result, 59% of the attorneys had begun altering their trial preparations. Fifty-one percent of the attorneys indicated that as a result of this CSI effect they were now requesting more forensic testing than they had five years previously (Watkins, 2004).

According to some researchers (Cather, 2004; Starrs, 2005; Thomas, 2005), crime dramas are having a serious effect on how prosecutors are having to adapt to jury perceptions about crime and forensic evidence. Cather (2004) and Starrs (2005) claim that in response to CSI and similar shows, prosecutors have begun asking more questions of potential jurors about their television viewing habits before accepting them to sit as jurors. When cases seated for trial lack forensic evidence, prosecutors often put forensic

experts on the stand to testify why physical evidence may not exist (Cather, 2004; Starrs, 2005). Thomas (2005) writes of a study conducted by the Maricopa County, (Arizona) Attorney's Office in 2005, where a survey of 102 prosecutors with jury trial experience were surveyed about their perceptions of a CSI effect among juries. The study found that a significant CSI effect exists in Maricopa County (Thomas, 2005). The study was conducted by surveys of prosecutors who performed interviews of jurors after verdicts had been reached in a variety of criminal cases during 2005. Ninety-four percent of prosecutors in Maricopa County claimed to have spoken with jurors, post trial, to obtain their feedback on the course of the particular trial. Thomas (2005) found that 74% of Maricopa County prosecutors claim they had prosecuted a case in which the jurors had expected to be presented with forensic evidence. Thomas (2005) also found that in nearly half of the cases brought to trial by the prosecutors surveyed, jurors had asked questions about forensic evidence.

There are a number of newspaper articles that have reported anecdotal evidence of a perception of a CSI effect among prosecutors (Blankstein & Guccione, 2005; Booth, 2004; Bowman, 2005; Cole & Dioso, 2005; Hannah, 2002; Krift, 2006; Neff, 2006; Rivas, 2007; Roane, 2005; Willing, 2004). The popular press reveals a number of instances where prosecutors and practitioners cite specific criminal cases where they believe the media, particularly crime show reality television, had a profound effect on the outcome of their case (Neff, 2006; Robertson, 2006; Stockwell, 2005; Volante & Smith, 2005). Further, many prosecutors are seeking training in the presentation of evidence

because they believe that juries demand more compelling arguments of scientific techniques (2006 Fall meeting of the National Association of District Attorneys).

Podlas (2001) explored the popularity of crime and court shows on viewers beliefs about the judicial system. Podlas examined the impact that the public's perception has on the legal system by comparing individuals who did and did not regularly watch syndicated court television shows. Data obtained from a questionnaire distributed to 225 randomly selected individuals who had been called to jury duty in three northern metropolitan areas showed that television court shows do shape the public's beliefs about courts and the law (Podlas, 2001). The juror questionnaire administered by Podlas (2001) was designed to investigate attitudes and beliefs that might be associated with syndicated television viewing and the potential impact of these beliefs. Just as watching crime investigation television shows like CSI allegedly influences viewers' perceptions about the judicial system, Podlas (2001) found that syndicated court television shows had a similar effect on viewer perception by sometimes providing misconceptions of the justice system. Podlas (2001) claims that citizens called to jury duty likely have had little exposure to the criminal justice system. Therefore, the beliefs the public does have about the law and judicial system likely are learned from the media. Podlas' (2001) study found evidence which suggests that syndicated court television shapes the public's view of the legal system and society. The data from Podlas' 2001 study found that viewers who watched court television shows were more likely to conclude that the television court judges were typical of real life judges than were jurors who did not watch the shows (Podlas, 2001). Although Podlas (2001) does not address the CSI effect directly, it is

likely that a similar effect on public perception is at play whether the shows in question are court television or CSI shows.

Popular author Connie Fletcher (2006) devoted an entire book to describing life as a forensic scientist. Fletcher offers anecdotal evidence in support of a CSI effect she claims has altered the ways in which law enforcement now conduct their criminal investigations. Through interviews with criminal investigators, prosecutors, and forensic scientists, Fletcher (2006) details the changes that the legal community claims they have had to adapt to due to popular television crime dramas. One particular forensic scientist alleges that jurors have developed a whole set of expectations because of CSI, oftentimes unrealistic expectations. A crime lab director who was interviewed for Fletcher's book asserts that the general population is much better informed because of popular television shows. A latent print specialist detailed the amount of time he must spend "uneducating" the jury about CSI. Fletcher documents other such complaints about how one's word in court used to be "good enough," but has now been replaced by physical evidence and fancy science.

Lastly, regarding the CSI effect, criminal justice students are learning forensic evidence is vital in investigations and that the public is increasingly becoming aware of forensic science through the media. One of the current textbooks written by Cole and Smith (2007) acknowledges that most people in America do not fall victim to crime, but instead learn of crime through popular media outlets, which in turn has an effect on their perception and attitudes towards crime. The authors claim reality dramas, such as CSI, actually enhance the effect. Written for students of criminal justice, the text asserts that

criminal justice professionals have long relied on forensic science and that the public has become quasi informed about forensics through the television drama CSI.

Studies Against a CSI Effect

One of the most recent studies addressing the supposed existence of a CSI effect is Podlas' 2006 study, "Exposing the Myth of the CSI effect" (Podlas, 2006a). The study explores the existence of a CSI effect and whether it impacts the criminal justice system through juror deliberations. Podlas (2006a) addresses the three popular beliefs about the CSI effect: (a) the unreasonable expectation on the part of jurors, making it harder for prosecutors to win cases; (b) the public's belief that scientific evidence is infallible, and (c) CSI has increased the interest in the forensic sciences, subsequently causing its viewers, potential jurors, to be able better follow scientific evidence in a court setting.

Podlas, in both her 2001 and 2006a articles, acknowledges that television has become the principal source of the public's legal knowledge. Podlas (2006a) uses the popular cultivation theory to link the public's perception to the images they view on television. Cultivation theory claims people who view a great deal of television will perceive the real world as the one on television, adopting attitudes and beliefs from what they view (Gerbner, 1977). Podlas (2006a) suggests that such a broad theoretical approach may no longer be accurate and that Cultivation theory should be modified to acknowledge genre-specific effects. Podlas (2006a) refers to her 2001 study to illustrate the relationship between television viewers and syndicated court shows.

To investigate the potential CSI effect, Podlas (2006a) used a two-part survey instrument to question 306 undergraduate and graduate students as to their law-related

television viewing habits and to provide a criminal law scenario where respondents were able to provide reasons for their respective verdicts. Podlas' 2006a findings were contrary to the popular beliefs that a CSI effect is hindering the prosecution's ability to obtain guilty verdicts. Podlas' 2006a data showed that frequent viewers of CSI were no more influenced by CSI factors than non-frequent viewers. Podlas (2006a) does acknowledge, however, that a CSI effect may still exist and that further studies should be pursued.

Others find evidence similar to Podlas (2006a) that the CSI effect, if any, neither helps nor hinders prosecutors in achieving guilty verdicts. Tyler (2006) acknowledges in his study that there is no evidence supporting or refuting the nature of a CSI effect. Reviewing a series of studies concerning juror behavior, Tyler (2006) found that there was some evidence consistent with a CSI effect, but concluded that there are other factors outside of watching crime scene shows that explain jury decision making. Tyler (2006) pointed to the excessive confidence in evidence, the creation of a one-sided view of the law, sympathy for defendants and victims, and the declining trust in legal authorities as reasons that may affect the jury decision-making, in addition to watching crime dramas.

In another recent study "The CSI Effect and Other Forensic Fictions," Podlas (2006b) examined perspectives of the CSI effect from that of assistant district attorney's and mock jurors. The first part the study surveyed assistant district attorneys regarding their beliefs in and personal experience with a CSI effect. Results of the study revealed that most assistant district attorneys surveyed did indeed believe in the CSI effect.

However, further examination of the cases cited by the attorneys in which the CSI effect

was alleged showed that 19 of 20 such cases had resulted in convictions, thus disproving any CSI effect.

The second part of Podlas' 2006b study examined 538 mock jurors (comprised of 98 individuals on jury duty, 134 jury eligible adults, and 306 university students). The mock jurors participated in an exercise in which they deliberated to a verdict and identified, from a list, any reasons influencing their decision. The results of the second part of the study showed no empirical results supporting the CSI effect (Podlas, 2006b).

The studies reviewed here show mixed results on whether the CSI effect exists. As stated earlier there is an absence in the literature regarding the perception of a CSI effect by law enforcement. Instead of querying the public directly, this study will explore the possible existence of the CSI effect by surveying North Carolina law enforcement officials. Specifically, this study will measure the extent to which officials believe the public's perception is affected by the CSI effect. Additionally, this study will evaluate whether or not North Carolina law enforcement has altered their professional practices in response to this perceived CSI effect.

Cultivation Theory

Although the lack of scholarly work supporting a CSI effect does not forego its possibility, it stresses the importance of a workable theory explaining such an effect. Most theories that explain the relationship between entertainment programming and viewer beliefs rely on cultivation. This foundational theory of media influence presumes that, under certain circumstances, heavy exposure to a pattern of television content impacts viewer perceptions of reality. One theoretical perspective dealing with the socio-

cultural outcomes of mass communication is that of George Gerbner and his colleagues, which they called cultivation (Bryant & Zillmann, 1986). Cultivation is the theoretical perspective most frequently used by prior research in explaining the CSI effect. This perspective suggests that the repeated patterns of portrayals found throughout television programming can influence or shape viewers' conceptions about the real world (Signorielli & Morgan, 1996).

The idea of cultivation exists in three forms. First, it can be treated as a construct referring to one type of media effect. Second, it can be regarded as a hypothesis predicting a positive relationship between amount of television exposure and evidence of cultivated perceptions or beliefs. Third, it can be examined as a formal theory composed of constructs and a set of propositions (Potter, 1993). Cultivation theory is concerned with the totality of the pattern communicated cumulatively by television over a long period of exposure, rather than by any particular content or specific effect. Drawing from the theory, the difference in the social reality of heavy television viewers versus light viewers are that heavy viewers will believe in a reality that is consistent with that shown on television, even though television does not necessarily reflect the actual world (Littlejohn, 2002). Gerbner and his colleagues asserted that television is the primary and common source of socialization and everyday information in our society and that most television programming shares similar storytelling features (Nabi & Sullivan, 2001).

Cultivation theory can be further dissected into two groups, first and second order effects. First order cultivation effects explore the relationship between prolonged television exposure and quantitative results of events or occurrence in the viewer's social

reality (Nabi & Sullivan, 2001). Second order cultivation effects look at the relationship between television exposure and general beliefs about the world at large (Nabi & Sullivan, 2001). Thus, people who watch a great deal of television come to: (a) perceive the real world as resembling what they see on television; and (b) adopt attitudes conforming to that visage (Woo & Dominick, 2003).

Gerbner and his colleagues developed cultivation theory and its perceived effects on television programming which was limited to a minimum of available channels (Podlas, 2006a). In comparison, modern television with cable, TiVo, a consumer device which allows viewers to store and later view television programming, with upwards of 500 channels on some satellite services, individuals today can watch television around the clock and can view the genre of programming in which they are interested. As a result, the modern concept of cultivation theory considers the genre-specific viewing habits of viewers and how the genre-specific programming affects the perceived reality of viewers (Cohen & Weimann, 2000).

In a recent study, Hetsroni and Tukachinsky (2006) conducted a study which adds to and supports classic cultivation theory. The researchers classified study participants into three groups, according to their television viewing habits and measured their perceived reality of the world (Hetsroni & Tukachinsky, 2006). The results of the study concurred with the general idea of cultivation theory, that a misguided perception of the social world is statistically related to television viewing (Hetsroni & Tukachinsky, 2006). In the study, the lightest viewers, who were members of the distorted no-cultivation group, estimated the real world correctly but made mistakes in estimating the television

world (Hetsroni & Tukachinsky, 2006). As viewing continues to increase, both estimations are gradually impaired. Finally, the heaviest viewers, who are concentrated in the over cultivation group, no longer distinguish the real world from the TV world and are also unable to estimate correctly either one of the worlds (Hetsroni & Tukachinsky, 2006).

Concept of Perception

The role of perception is fundamentally important to the understanding of a CSI effect. Perception is a complex process by which people understand their world (Severin & Tankard, 1992). For this study, perception will be defined as the way people perceive their world by the messages they have received through the media. Though little has been written exclusively about perception there are some sources which address the subject. Severin and Tankard (1992) define perception as a process in which individuals take in information and organize it into a meaningful and understandable picture of the world. Lipschultz and Hilt (2002) assert that the mass media is the prominent source of information the public uses to develop views about social issues such as crime. Supporting the notion of media influence on perception, several others (Baukus, 1999; Manning, 1997) have claimed that television is a producer of images and perceptions, providing viewers with a view of the world which shapes their beliefs and reality. Although the aforementioned studies do not prove a CSI effect, they allude to multiple reasons why the law enforcement community may believe in one.

Perceptions of Society by Law Enforcement

There are many reasons law enforcement may perceive that a CSI effect exists. The depiction of forensic science on television has evolved from being the topic of some investigative news episodes to prime time dramas that focus exclusively on law enforcement. While the popularity of forensic crime shows has increased, the portrayals of law enforcement are not necessarily accurate. Forensic crime dramas, such as CSI, blend factual and fictional depictions of law enforcement, blurring the lines between science and fiction.

Policing is one of the most complex and difficult jobs in any society (Marenin, 2004). In the United States such difficulties are exaggerated. In the United States, the authority of the police is founded on law yet they retain significant discretion in when and how to apply the law (Marenin, 2004). They must be responsive to public demands for service and protection yet cannot be overly responsive, and must resist if the implementation of such demands were to violate the constitutionally protected rights of individuals and groups. Many police activities violate conventional societal norms, such as undercover work, yet are necessary to satisfy public demands for order, safety, and well-being (Marenin, 2004). In short, the police must legitimate yet conflicting values and rights: demands for effectiveness while still protecting individual rights, the maintenance of public order without unduly restricting liberty, the need to threaten or use force without deviating into abuse, being guided by law and professional expertise simultaneously (Waddington, 1994).

Policing traditionally has been incident-driven and case-oriented, and it has relied predominantly or exclusively on the actual or threatened use of officers' coercive authority (Engel & Worden, 2003). Most research on police behavior examines what officers do to people, not what they do for them (Mastrofski & Snipes, 2000). In a society that prizes individual liberty, most studies of police focus on what they do to restrict that liberty: stop, investigate, search, arrest, and otherwise coerce people (Mastrofski & Snipes, 2000). Much public policing involves citizens engaging the police to take care of things that seem awry. Such requests alert the police to many situations that would otherwise escape their attention, and by voicing those requests, citizens indicate that someone wants the police to do something.

Since police perceptions of society per se have not been studied at length, police culture as a whole will be addressed for the purpose of this study. Research on police officers has noted the negative attitudes that police hold toward citizens. As part of an "us versus them" outlook, officers have generally not trusted and have been suspicious of the citizens they police (Terrill, Paoline, & Manning, 2003). Within their occupational environment, officers cope with danger and coercive authority by being suspicious and maintaining the edge or being one up on citizens at all times, often distancing them from the citizens they protect (Terrill et al., 2003). Other police culture research suggests that one of the ways that officers cope with the ambiguities of their role in society is by focusing exclusively on crime fighting activities, as service, order maintenance, and community policing efforts historically have not been regarded as "real" police work (Kelling & Kliesmet, 1996).

The police and criminal investigation today has undergone significant change in projecting its status as a true profession (Gilbert, 2007). Partially due to public pressure the police have upgraded their operations, technology, and policing techniques (Gilbert, 2007). As stated earlier the public are inundated with images in the media of criminal investigations and the forensic cop. Essentially, the forensic programs aired on television depict everything about forensic science, from the technology to the state of the art equipment being used by the police (Pyrek, 2007). Many police departments cannot afford or do not have sufficient personnel to devote as full time crime scene investigators. Anecdotal evidence has shown that citizens are questioning police technologies and the use of state-of-the-art equipment in criminal investigation. (Blankstein & Guccione, 2005; Booth, 2005; Bowman, 2005; Cole & Dioso, 2005; Dribben, 2007; Hannah, 2002; Krift, 2006; Mohandessi, 2006; Stockwell, 2005; Willing, 2004). This may be a source of concern for prosecutors and law enforcement practitioners because the CSI effect alleges that unrealistic expectations are harming the jury system (Pyrek, 2007).

In the following chapter, the methods used to collect, analyze, and draw conclusions from the reported data obtained in the study are discussed. The chapter begins with a discussion of how the sample in this study was developed and is followed by a section covering the survey instrument itself.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Introduction

This study examines the perceptions North Carolina law enforcement may have regarding a “CSI effect.” This study is also designed to gauge any organizational changes within the law enforcement agency which may have occurred as a result of these perceptions. Law enforcement officers have a lot of contact with the public. The police are in a unique position to assess whether or not the public is under the spell of the CSI effect. Law enforcement officers are the first to respond to the public’s request for assistance and often encounter misperceptions in what can and cannot be done to rectify citizen’s complaints. Secondly, some law enforcement officers actually use some of the forensic technology featured on the popular forensic television shows. Police officers are also likely to know the limits of such technology. Lastly, if a crime is able to be solved and charges brought against a suspect, law enforcement officers interact with the State Prosecutor to facilitate case strategy. This last interaction with the State Prosecutor often times leads to physical evidence being examined and reexamined. Additionally, further interviews with witnesses and suspects may be warranted and investigation details which the public may never be aware of generally transpire. These case dynamics that are common for law enforcement may never be disclosed to a jury, leaving them with a

different perceptives on the case. All of these experiences result in law enforcement officer's opportunities to assess the existence of a CSI effect.

The best methodological tool to explore these questions is a survey. Previous studies on the CSI effect done by Podlas (2001, 2006a, 2006b) and Watkins (2004) used quantitative methodologies. Podlas (2001, 2006a, 2006b) utilized a survey instrument along with tactics of interviewing, analyzing and researching during her three studies. Watkins (2004) also utilized a survey instrument to measure perceived CSI effect among attorneys. Because my study builds on and draws upon these studies, the following sections will discuss their methods.

Population under Study

Researchers collect data in order to test a hypothesis and to provide empirical support for explanations and predictions. Ideally, results from the sample will be generalized to the entire population under study. In this study, the entire population of North Carolina law enforcement agencies were surveyed, so sampling techniques were not necessary.

There are 580 law enforcement agencies in the State of North Carolina. These agencies deal with a variety of criminal investigations and often have different or overlapping jurisdictions. In North Agency email addresses for most of these agencies were obtained via the specific agency's website, or via the websites of the North Carolina Chiefs' of Police website, North Carolina Sheriff's Association, the North Carolina League of Municipalities, and North Carolina Justice Academy. Of the total surveys distributed, 264 completed surveys ultimately were returned, yielding a response

rate of 58%. There were several North Carolina law enforcement agencies that, for a number of reasons, were dropped from the study. Of the 580 agencies in this study, valid email addresses could not be obtained for 125 of the agencies. Of 455 remaining, surveyed agencies, 191 did not respond. The majority of agencies which did not respond to the survey request were from municipal police departments. One reason for the majority of non-response in this category may be due to demographics. North Carolina law enforcement primarily consists of small towns with small police departments, many of which may have limited internet accessibility or personnel willing to complete a survey. Due to time constraints associated with this study, one follow up email was sent approximately two weeks after the original email in an attempt to generate a response. An additional two weeks was given after this follow-up email before the study was closed to ensure all agencies who wanted to participate were given the opportunity. The survey instrument was designed to elicit only one response only from each agency surveyed, so each respondent was considered a “representative” of his or her agency.

Data Collection

Due to cost considerations and time constraints a web-based survey instrument was sent to each respondent via email (see Appendix). A brief explanation of the study along with the researcher’s contact information was included in the email to the agency. The survey was comprised of questions intended to assess the respondent's perceptions of the CSI effect as well as organizational changes, if any. In an age of ever-advancing technology, Americans are becoming progressively more computer literate (Schaffer & Dillman, 1998). More and more people have access to the internet, and the internet is fast

becoming the communication method of choice for many Americans (Duffy, 2000). Researchers agree that internet based survey instruments allow for reduced time, lowered cost, ease of data entry and the ability to capture open ended responses (Duffy, 2000; Granello & Wheaton, 2004; Schleyer & Forrest, 2000). There are several methods for collecting data online. The two most common are e-mail surveys and web-based surveys. With email surveys, the participant receives an email with a survey embedded in it, clicks on the “reply” button, fills the survey out, and clicks on the “send” button (Granello & Wheaton, 2004). The researcher then downloads the raw data into a statistical database. Web-based surveys, on the other hand, require the instrument to be available on a web site, and individuals are solicited either by traditional mail, email, telephone, or through other web sites to participate in the survey (Granello & Wheaton, 2004). Both of these methods have advantages and disadvantages, each of which will be discussed below. The study at hand utilized an e-mail survey.

As previously stated, online surveys have several important advantages over mail surveys that make them particularly attractive to researchers. These include reduced response time, lower cost, ease of data entry, flexibility of and control over format, advances in technology, recipient acceptance of the format, and the ability to obtain additional open-ended information. The availability and ease of use with the internet has dramatically reduced response time for web based surveys, generally within 2 to 3 days, over traditional mail surveys, which can take as long as 4 to 6 weeks (Granello & Wheaton, 2004). Confidentiality is a concern when conducting research on human activity. All social science researchers have a special obligation to protect the

confidentiality of information obtained from their research. Several researchers have noted that self-disclosure is increased when people communicate using web-based surveys as compared with traditional mail surveys (Joinson, 1999; Moon, 2000). Conboy, Domar, and O'Connell (2001) found that an internet survey offered the necessary assurances of anonymity to allow respondents to give accurate data surrounding sensitive issues.

Even though research shows that web based survey instruments have many advantages over traditional mail surveys, the chief disadvantage as with mail surveys is non-response (Granello & Wheaton, 2004). No matter how carefully a sample is selected, some members of the sample simply do not respond to the survey questions. This study utilized a survey instrument which provided the respondents an opportunity to answer open-ended questions. Open-ended questions, as in this study, often have a low response rate because respondents may not want to take the time to type the responses. Open-ended responses do however provide a rich source of data for researchers which may not have been obtained using traditional methods of surveying. A low response rate does not necessarily lead to non-response error. To overcome this problem, there are methods of increasing responses in a web based survey such as follow up, offering remuneration, endorsements, personalization and a shortened format (Hagan, 1997). Another disadvantage to web-based surveying is ensuring a representative sample is obtained (Granello & Wheaton, 2004). It is the responsibility of the researcher to ensure that all members of a defined population have equal access to the technology needed to complete the survey. This study utilized lists of email addresses accumulated through law

enforcement resources which covered nearly every law enforcement agency in North Carolina. Thus, a representative sample of statewide North Carolina law enforcement agencies was obtained in this research.

Survey Instrument

To investigate the potential CSI effect as perceived by North Carolina law enforcement and the changes that may have been made as a result, a survey (see Appendix) comprised of questions regarding the respondents' perceptions as well as open ended questions was created. An informed consent was included with the survey and an acknowledgement was necessary before the respondent could continue. The survey was provided to each North Carolina law enforcement agency for which a valid email address was obtained. The email based survey was designed to allow only one response per agency and was directed to the officer who conducted crime scene investigations within the department. In cases where the agency may not have a crime scene investigator, the survey requested an officer who has investigative experience complete the survey.

The survey included the following general topics:

1. Demographics of the respondent.
2. Perceptions by law enforcement of the public's perception regarding a CSI effect.
3. Changes in investigatory techniques by law enforcement.
4. Open ended questions to gauge future training needs, cases believed to be affected by the CSI effect and any other issues about the CSI effect to which the respondent wishes to respond.

Two hundred sixty-four Federal, State, and Local law enforcement agencies from across North Carolina were included in this study. Federal law enforcement agencies were included in the study because the study aims to evaluate law enforcement's perception of a CSI effect. North Carolina law enforcement officers are routinely called to State court to testify and are occasionally summoned to Federal court for testimony. Therefore it is reasonable to assume the same beliefs and perceptions of law enforcement would be brought to the Courts at both the Federal and State levels. The rules of evidence are similar in both Federal and North Carolina State Courts and thus should not be a factor in any measurable outcomes. In 2000, the latest year for which data is available, there were 580 Federal, State, and local law enforcement agencies in North Carolina employing an estimated 23,000 officers (Bureau of Justice Statistics, 2000).

Web-based Survey Browser Information

I utilized SurveyMonkey.com to develop and distribute the survey instrument, as well as to collect the data used in the analysis of this study. Started in 1999, SurveyMonkey is an online survey tool that enables people of all experience levels to create their own surveys quickly and easily. SurveyMonkey.com is an easy-to-use tool for the creation of online surveys. Its primary strength is its intuitive web interface, which makes it easy for even non-technical researchers to create surveys and export collected data. It has advanced features, like the ability to branch questions based on response and exporting to different formats such as Microsoft Excel and SPSS. SurveyMonkey's offices are located in Portland, Oregon USA (http://www.surveymonkey.com/Home_CompanyInfo.aspx).

Web-based surveys like all survey research has its strengths and weaknesses. Web based surveys are advantageous in that there is the speed with which a questionnaire can be created, distributed to respondents, and the data returned. Since printing, mailing, and data keying delays are eliminated, you can have data in hand within hours of writing a questionnaire. Data are obtained in electronic form, so statistical analysis programs can be programmed to process standard questionnaires and return statistical summaries and charts automatically.

A second reason to consider Internet surveys is cost. Printing, mailing, keying, and interviewer costs are eliminated, and the incremental costs of each respondent are typically low, so studies with large numbers of respondents can be done at substantial savings compared to mail or telephone surveys. Of course, there are some offsetting costs of preparing and distributing an Internet questionnaire. These costs range widely, according to the type of internet interviewing used.

The questionnaire is prepared like a simple e-mail message, and is sent to a list of known e-mail addresses. The respondent fills in the answers, and e-mails the form plus replies back to the research organization. A computer program is typically used to prepare the questionnaire, the e-mail address list, and to extract the data from the replies. E-mail questionnaires are simple to construct and fast to distribute. By showing up in the respondent's e-mailbox, they demand immediate attention.

Internet survey research is not appropriate for all populations and all projects. Some disadvantages to web based survey research is emails are generally limited to plain text, limiting the use of graphics. Many standard questionnaire lay-out techniques, such

as creating grids of questions and scale responses, cannot be done in a visually attractive way in e-mail. There is no check for validity of data until the whole questionnaire is returned, so there is virtually no opportunity to request that the respondent reenter bad data. The respondent may damage the questionnaire text in the process of responding, making automatic data extraction impossible and requiring hand coding of damaged responses. The following chapter presents the results of the study. In the final chapter, I will discuss the findings, along with the implication for future research.

CHAPTER IV

RESULTS

Demographic Profile of the Sample

The most recent data available from the U. S. Department of Justice, Bureau of Justice Statistics reports that as of June 2000, a total of 580 law enforcement agencies were operating within North Carolina. These agencies employed 18,903 full-time, sworn law enforcement officers. North Carolina law enforcement agencies are separated into jurisdictions as follows; there are 12 federal agencies, 10 state agencies, 100 sheriff's departments, 338 police departments, 38 campus police departments, and 5 other special law enforcement agencies.

Valid email addresses were obtained for 455 of the 580 agencies. From the 455 surveys actually distributed, 264 agencies responded, a 58% response rate. The profiles of the responding agencies were 170 (64%) police departments, 69 (26%) sheriff's departments, 6 (2.3%) federal law enforcement agencies, 4 (1.5%) state law enforcement agencies, 12 (4.5%) campus law enforcement, and 3 (1.1%) other. One hundred thirty six (51.5%) of the agencies reported to be small town, 42 (15.9%) metropolitan area, 45 (17%) rural area, 29 (11%) suburban area, and 4 (1.5%) reported to be another geographic location. The measure of geographic location was asked on the survey and left for the respondent to determine which geographic area best fit their agency jurisdiction. The applicant had a choice of answers including, metropolitan area, small

town, rural area, suburban area, and other. The agency size ranged from 1 officer to 2,700 with an average of 98 officers. The officers who responded to the survey are 84% male, 87% white, 7% black, .4% Hispanic, .4% American Indian, and .8% multi-racial. The average age of the respondents is 38.5 years old (see Table 1).

Table 1

Comparison of Population Demographics (N=264)

Demographic Variable	Frequency	Percent
Gender		
Male	223	84.0
Female	40	15.2
Missing	1	0.4
Race		
White	230	87.1
Black	20	7.6
Hispanic/Latino	1	0.4
American Indian	1	0.4
Multi-Racial	2	0.8
Refused/Did Not Answer	10	3.4
Age		
25-30	75	28.4
31-35	36	13.6
36-40	52	19.7
41-45	39	14.8
46-50	33	12.5
51-55	16	6.1
56-60	9	3.4
60 and over	4	1.5
Missing Data	0	0.0

The respondents had an average of 13.2 years of experience as law enforcement officers, but only an average of 7.8 years of service at their current location (see Table 2). The respondents on average investigated 16.5 criminal investigations monthly. The respondents reported that on average statewide, 126 criminal cases are investigated by North Carolina law enforcement agencies monthly. Not all of these agencies investigate serious criminal offenses. Instead, more serious crimes are often deferred to larger municipalities or sheriff's offices nearby. Although the survey was intended to be completed by respondents who investigate criminal offenses, some of the respondents in fact did not conduct any investigations in the previous month.

Table 2

Agency Profile (N=264)

Type	Frequency	Percent	Population Total
Federal Law Enforcement	6	2.3	12
State Law Enforcement	4	1.5	10
Sheriff's Office	69	26.1	100
Municipal Police	170	64.4	338
Campus Law Enforcement	12	4.5	38
Other	3	1.1	5
	Minimum	Maximum	Average
Agency Size	1	2,700	98.66
Years of Total Service	1	41	13.23
Years at Current Agency	1	25	4.69
Years at Current Assignment	1	32	7.8
Total Monthly Investigations	0	3,500	126.11
Total Monthly Investigations by Respondent	0	150	16.55

As stated in Chapter II, there is no existing scholarly research into the law enforcement perceptions of the CSI effect. I was also unable to find research exploring how the CSI effect may be impacting law enforcement. In fact the only evidence of any CSI effect on law enforcement is anecdotal (Blankstein & Guccione, 2005; Booth, 2004; Bowman, 2005; Cole & Dioso, 2005; Hannah, 2002; Krift, 2006; Neff, 2006; Rivas, 2007; Roane, 2005; Willing, 2004). This study was designed to capture law enforcement's perceptions of a CSI effect, not to study whether a CSI effect actually exists. This survey instrument also included questions about institutional and procedural changes in law enforcement as a result of perceived CSI effects. The questions about a perceived CSI effect were asked in a number of different ways. The police officers who answered the survey were asked whether they thought District Attorneys, defense attorneys, the public, and law enforcement officer as a whole were concerned about a lack of evidence. That is, the police officers were asked not only about themselves, but about other key players in the criminal justice system. Many questions focused on lack of evidence. CSI TV shows typically involve fictional crime stories that are solved with very advanced forensic technology. I reasoned that if there is a CSI effect in real life, it is likely manifesting as a concern surrounding forensic evidence. To the extent that real life criminal justice agencies are expected to be more like CSI shows, they are probably under pressure to come up with more evidence.

This study utilized a survey instrument constructed with a set of initial questions without reference to a CSI effect and a subsequent set of questions referencing the CSI effect. The results of both types of questions were similar in response. Only the

questions referencing a perceived CSI effect were illustrated in the tables below. In the first set of questions law enforcement was asked whether they thought a lack of evidence has been a concern of District Attorneys over the past five years. Evidence concerns have traditionally been the focus of CSI effect claims (Cather, 2004; Starrs, 2004; Thomas, 2005). District attorneys are the elected representatives of the state in all criminal and some juvenile matters. The primary responsibility of the district attorney, with his or her assistants, is to prosecute all criminal cases filed in the Superior and District Courts. District attorneys also advise local law enforcement and prepare the criminal trial docket. District attorney's work closely with law enforcement to prepare a criminal case and often defer to law enforcement to have evidence examined and witnesses thoroughly interviewed. So, the police are in a unique position to observe whether or not District Attorneys are concerned about a CSI effect.

The next question asked assessed whether the police believed that a lack of evidence has been a concern among defense attorneys. Defense attorneys are lawyers who persons charged with a crime retain for legal representation. If a defendant cannot afford an attorney and is accused of a crime that could result in imprisonment, the defendant is eligible for the services of a lawyer, called a public defender, at state expense. Public Defenders are full-time, state-paid attorneys whose function is to represent indigent criminal defendants and indigent respondents in civil cases in which there is a right to counsel. Law enforcement officers have traditionally perceived defense attorneys as the adversary in court proceedings (Blumberg, 1967; White, 1972). Law enforcement's investigations are typically scrutinized by defense attorneys and their

actions such as the collection and analysis of evidence may be called into question during such proceedings. Watkins' (2004) study found that 59% of the attorneys surveyed, both District Attorneys and defense attorneys, showed an increase in arguments addressing forensic science in court. Of the attorneys surveyed 17% showed a significant increase in addressing forensic science in trial preparations (Watkins, 2004).

If people's reactions to crime and criminals are generally shaped by the mass media (Gerbner, 1977), then it seems reasonable to assume that public reactions to criminal cases could be shaped by shows like CSI. Although the evidence supporting a CSI effect is anecdotal (Blankstein & Guccione, 2005; Booth, 2004; Bowman, 2005; Cole & Dioso, 2005; Hannah, 2002; Krift, 2006; Neff, 2006; Rivas, 2007; Roane, 2005; Willing, 2004), one can reasonably link public perception and crime to media consumption, evidence of which does exist (Podlas, 2001, 2006a; Tyler, 2006).

Addressing the Alleged CSI Effect

The American legal system demands proof beyond a reasonable doubt before the government is allowed to convict an alleged criminal of a crime. When a forensic examination of evidence is available that potentially would produce evidence of guilt or innocence all scientific tests should be exhausted. When scientific evidence is not relevant to a particular criminal case, the government must find more convincing ways to explain the lack of relevance to jurors. The next set of questions asked whether CSI issues have been increasingly addressed in the courtroom over the past five years.

The respondents were given a common definition of the CSI effect: The CSI effect refers to the alleged effect, CSI and related crime scene shows may have on the public

causing them to interpret the absence of forensic evidence negatively against the prosecution. After reading this definition, they were asked second set of questions.

The results of this second set of questions supports the findings from the anecdotal literature (Blankstein & Guccione, 2005; Booth, 2004; Bowman, 2005; Cole & Dioso, 2005; Hannah, 2002; Krift, 2006; Neff, 2006; Rivas, 2007; Roane, 2005; Willing, 2004). The frequent claim by supporters of the CSI effect is that the public, who are also potential jurors, are influenced by the popular television forensic dramas and thus bring preconceived ideas of the forensic sciences to the courtroom. This is the fundamental argument of those who claim a CSI effect exists. These preconceived ideas of how investigations are conducted allegedly have caused an increase in acquittals and in response law enforcement and attorneys have supposedly taken steps to address the realities of criminal investigations to overcome these preconceived juror beliefs (Blankstein & Guccione, 2005; Booth, 2004; Bowman, 2005; Cole & Dioso, 2005; Hannah, 2002; Krift, 2006; Neff, 2006; Rivas, 2007; Roane, 2005; Willing, 2004). The results of this study show that respondents are indeed concerned over a need of forensic evidence in their investigations. In each of the questions asked concerning forensic sciences in criminal trials there was slight to significant increase in concern over the past five years that forensic evidence may make a difference in their case.

The following tables concern the perceptions law enforcement may or may not have about how much a CSI effect has impacted criminal trials (see Tables 3-5).

Table 3

Response to “Do You Believe District Attorneys are Specifically Addressing Forensic Science in Criminal Trials to Address any Potential CSI Effect?”

	<i>n</i>	%
There has been a significant increase in change	23	8.7
There has been a slight increase in change	152	57.6
There has been no change	67	25.4
There has been a slight decrease in change	0	0.0
There has been a significant decrease in change	0	0.0
No opinion or did not answer	21	8.3

Table 4

Response to “Do You Believe Defense Attorneys are Specifically Addressing Forensic Science in Criminal Trials to Address any Potential CSI Effect?”

	<i>n</i>	%
There has been a significant increase in change	54	20.5
There has been a slight increase in change	169	64
There has been no change	25	9.5
There has been a slight decrease in change	0	0
There has been a significant decrease in change	0	0
No opinion or did not answer	15	6

Table 5

Response to “Do You believe that You as the Respondent are Specifically Addressing Forensic Science in Criminal Trials to Address any Potential CSI Effect?”

	<i>n</i>	%
There has been a significant increase in change	38	14.4
There has been a slight increase in change	156	59.1
There has been no change	54	20.5
There has been a slight decrease in change	0	0
There has been a significant decrease in change	0	0
No opinion or did not answer	16	6

When respondents were asked if they believed that District Attorneys were specifically addressing forensic science in criminal trials to address any potential CSI effect 66.3 % indicated there had been a slight to significant increase in change. When respondents were asked if they believed defense attorneys were specifically addressing forensic science in criminal trials to address any potential CSI effect 84.5 % indicated there had been a slight to significant increase in change. Lastly, when respondents were asked if they as law enforcement believed they were specifically addressing forensic science in criminal trials to address any potential CSI effect, 73.5 % indicated there had been a slight to significant increase in change.

Respondents were asked if they believed crime scene shows like “CSI” influenced the public’s beliefs about how the police investigate crimes (see Table 6).

Table 6

Response to “Do You as the Respondent Believe that Crime Scene Shows like “CSI” Influence the Public’s Perception of how the Police Conduct Their Investigations?”

	<i>n</i>	(%)
There has been a significant increase in concern	56	22
There has been a slight increase in concern	106	40.2
There has been no change	87	32.7
There has been a slight decrease in concern	1	0.4
There has been a significant decrease in concern	0	0
No opinion or did not answer	13	4.9

The results revealed that law enforcement believe (62.4% of respondents) that CSI type shows have had a slight or significant influence on how the public view how the police investigate crimes. Meanwhile, 32.7% of respondents indicated that CSI type shows have had no change on the public’s beliefs about how law enforcement investigates crimes.

Law enforcement believed overall that over the past five years a lack of evidence in their investigations was a concern among the public and that crime scene shows like “CSI” influenced the public’s perception of how the police conduct their investigations. Technology and science are often intertwined. Advancements in technology and scientific discoveries have revolutionized the field of forensics over the past decade (Pyrek, 2007). With the advent of the internet these scientific discoveries and advances in technology are easily assessable and available to the entire world. It is not a surprise that the media grab these scientific discoveries and quickly make them part of our popular

culture. To explore whether law enforcement perceived a CSI effect has led to changes in investigative practices over the past five years respondents were questioned as to any changes in the amount or types of evidence submitted to a forensic laboratory for analysis during this period. A majority (74.6%) of respondents reported they agreed somewhat or agreed strongly that North Carolina law enforcement agencies had altered their investigative practices in response to a CSI effect (see Table 7).

Respondents were then asked a series of follow-up questions regarding changes in the amount of forensic evidence, specifically DNA, fingerprints, and trace evidence, submitted to a forensic laboratory for analysis during the past five years tended to support the respondents' claims of agency changes.

Table 7

Response to “Do You Agree or Disagree that North Carolina Law Enforcement Agencies Have Changed Their Investigative Practices in Response to a CSI Effect?”

	<i>n</i>	(%)
Agree strongly	22	8.3
Agree somewhat	175	66.3
Neither agree nor disagree	30	11.4
Disagree somewhat	8	3
Strongly disagree	2	0.8
No opinion or did not answer	27	10.2

These questions did not ask about a CSI effect directly, but instead asked about changes in law enforcement beliefs and practices generally. The majority of respondents (71.1%) reported they had made slight to significant changes in the type of evidence being submitted during the past five years to a forensic laboratory for analysis. Of the types of evidence being submitted, DNA showed the most significant change over the past five years. Respondents indicated a slight to significant change in DNA submission to forensic laboratories, 74.6% of the respondents. Fingerprint evidence was split between approximately half the respondents reporting a slight increase in submission to a forensic laboratory (44.3%) and the other half reporting no change (43.2%) in submissions. The majority of respondents reported no change during the past five years in the submission of trace evidence, (hair, fibers, and paint) to forensic laboratories. The results discussed above may be in response to increasingly changing technology in the field of DNA science.

Open-ended Responses

The questionnaire gave the opportunity for respondents to give specific examples of cases they had investigated where they believed a CSI effect was occurring. Respondents were asked to provide specific cases where they believed a CSI effect affected the outcome of an investigation and incidences in court where they believed specific CSI questions were being asked of them. All respondents were given the opportunity to respond to these open ended questions; however, only a small number of respondents, 14 of the 264 (16%) chose to do so. Due to the small number of responses they have been listed as reported below in Table 8. Overall, the responses indicated that

crime scenes are being processed more thoroughly now than in the past and respondents are taking steps to address potential CSI effect through training programs. The respondents reported that lawyers and judges are asking more questions as to the respondent's training and experience, qualifications, and steps they took to ensure evidence was collected properly. The responses in Table 8 are shown as they were indicated in the questionnaire responses.

The last section of the questionnaire consisted of open-ended questions, giving the respondent the opportunity to discuss examples of cases they believed an alleged CSI effect changed or altered the way in which the responded investigated the particular case. A follow up question of "Can you provide an example of a question you are asked on the stand in court now that you would not have been asked five years ago related to forensic?" Tables 8, 9, and 10 below are summaries of the responses.

Table 8

Responses to Open-ended Questions

Respondent	Response
69	We offer "Citizen Police Academies" that include over three hours of instruction specific to forensics. In these sessions, I specifically address the "CSI effect" with civic leaders and anyone else interested in law enforcement.
76	Specific policy guidelines established for the processing and tracing of all seized firearms.
137	An outside agency City County Bureau of Identification (CCBI) will process our crime scenes for my dept.

Table 8—Cont'd***Responses to Open-ended Questions***

Respondent	Response
146	We have just tried to use all of the above to our advantage. It takes keeping up with the times to stay ahead of the game.
147	We base our additional training and “cutting edge” evidence collection on what we need to ensure a strong prosecution case. We would do the same with the training and evidence collection even if the CSI effect was not in place.
149	Our Deputies are processing more of the simple Break-in scenes than they used to.
151	The agency hasn't implemented any of the above. A lot of the 'higher ups' now have questions of what the CSIs do.
171	We rely on SBI crime scene techs for any major investigation.
172	Most of the training went to the new Forensic Analyst. Very little was provided to the senior analyst.
200	Collecting more evidence at crime scenes. Sometimes it seems that some officers are collecting some things just to make the public happy, no evidential value.
207	Working with the North Carolina State Bureau of Investigation who is on the “cutting edge” of evidence collection.
232	Our CSI Unit increased assigned investigators last year. In April, 2007 we completed ASCLD/LAB inspection and are awaiting accreditation this fall. Our CSIs are required to achieve certification through the IAI Crime Scene Certification Program.
257	Plan to purchase more evidence supplies.
264	There have been no changes.

Table 9***Questions Asked Now in Court Not Asked Five Years Ago Related to Forensics***

Response

Defense attorneys comparing my duties to those on television

District attorney asking me before trial if there were any CSI stuff he needed to know for trial

Judge asked me once if I had been to any CSI schools (whatever they are)

Attorney's asking more now about training

Opening statements by attorneys in trial addressing the term CSI effect

Jurors wanting to know about crime scene scenes more than in the past, what items were collected and analyzed

How was this item tested and what certifications do you have in crime scene evidence collection

Public asking more questions about what we are doing at crime scenes and if it is like on TV

Do you have any DNA evidence and exactly how was it collected?

Defense asked once "was it done like on TV"

Table 10***Cases Cited by Respondents in Which They Perceived an Alleged CSI Effect Changed the Way They Investigated the Case***

Response

Victim wanted an item tested that we did not have the equipment for but they had seen it on television and did not understand why our agency did not have what was on television
Victims are all the time comparing my work to that of television

Detectives here at this agency are having to overcome the public's concern that "they saw it on television" therefore they "know" evidence can be recovered from this or that

The lab is able to do more and more things with evidence now than in the past so I guess the CSI propaganda has caused technology to be researched and developed which allows new processes to be performed on evidence

Victim saying that he had seen a similar case on TV and hoped the outcome to his case was positive like on television

Victims are all the time calling into the office wanting to know why something wasn't tested or they were told an item of evidence could not be tested and they know it can because they have read about it or seen it on television

A rape and attempted murder case where trace evidence was located and submitted for testing, DNA evidence submitted for testing. Suspect plead guilty

We have been requested by assistant district attorneys to examine firearms that were physically removed from the hands or pockets of a suspect in order to see if the suspect's latent prints or DNA were present. When I asked why, I was told "The defense attorney may ask about latent prints and DNA and the jury expects it."

Jurors in a case acquitted apparently due to lack of physical evidence presented in court when eye witness identified defendant

Just recently a habitual felon was found not guilty for lack of fingerprints and shoe tracks at the scene even though there were 3 eyewitnesses and the suspect confessed.

Fingerprint case where DNA implicated defendant but defense wanted fingerprints done anyway.

Table 10—Cont'd***Cases Cited by Respondents in Which They Perceived an Alleged CSI Effect Changed the Way the Respondent Investigated the Case***

Response

A serious assault where the defense was making an ordeal over why every blood drop wasn't tested even though defendant confessed to being to only one involved.

Case where defendant was released after jury decided they wanted to see the razzle-dazzle of television

While the open-ended questions were answered by only a few respondents, their answers generally support the results of the survey data. Respondents reported slightly to significantly that they believe a lack of evidence in their cases is an increasing concern among attorneys and law enforcement. The open ended question responses also support the data regarding changes in evidence collection and submission to forensic laboratories. The interesting finding from the open ended responses was that the respondents listed concerns they have received from citizens and victims of crimes about evidence collection and crime scene processing.

CHAPTER V

DISCUSSION/CONCLUSION

In the following chapter the survey findings will be compared to the prior research discussed in the literature review. From this study the implications of these findings will be discussed. The limitations of this study and suggested future research will also be addressed.

This study sought to explore the perceptions of North Carolina law enforcement regarding a CSI effect and any changes which may have occurred within the agencies as a result of these perceptions. This study did not explore whether a CSI effect exists. The goal here was to understand the alleged CSI effect from the perspective of law enforcement, an area where the literature is lacking. While the CSI effect has become a popular topic in the media and is a common phrase in our vernacular, the CSI effect has mixed empirical support (Podlas, 2001, 2006a, 2006b; Tyler, 2006; Watkins, 2004).

The results of this exploratory study show that the majority of law enforcement officers in North Carolina who were surveyed for this study believe that there is indeed a CSI effect. Although not the purpose of this study, these findings differ from the scholarly literature which has found little support for a CSI effect among non-law enforcement populations. These results are, however, in line with several anecdotal accounts that lay claim to the existence of a CSI effect (Cather, 2004; Starrs, 2005; Thomas, 2005). Law enforcement from North Carolina perceive that attorneys as well as

the public believe that there is a CSI effect and that attorneys are increasingly addressing forensic science in their criminal cases due this concern over a CSI effect. The evidence presented in this research is consistent with the claim that watching programs such as CSI affects public perception potentially by altering their views of the criminal justice system and law enforcement. But the existing research does not provide a framework for understanding this effect, or for understanding how law enforcement may react to any perceived CSI effect. The importance of the findings is not whether a CSI effect exists, but if law enforcement believes a CSI effect exists then what implications does this have on law enforcement practices.

One possible reason for the law enforcement perceptions uncovered in this study is the public is becoming duped about forensic science. With the tremendous popularity of television crime shows and the saturation of viewers who watch them the mass media play an important role in how the public view law enforcement. With almost half of the top regularly watched television shows being related to crime fighting or forensics it is plausible that the media has created a sub-genre of viewers (Neilson Ratings, June 7, 2007). Depictions of forensic science and law enforcement are so prevalent in our society that they shape how the public see law enforcement (Dowler, 2002). Crime dramas involving law enforcement are a staple of mainstream television programming and the public is inundated with images of police officers, from the crime scene investigator to heroic crime fighter. Some would argue that perceptions of law enforcement are largely determined by their portrayal in the mass media (Dowler, 2002). Research shows that law-oriented entertainment programming can cultivate opinions regarding litigation and

the behavior of judges, attorneys, and even litigants (Podlas, 2006a). For instance, Podlas's multi-year study demonstrated that television's reality courtrooms had an impact on the perceptions of heavy viewers regarding their perceptions of the courtroom (Podlas, 2006a, 2006b). If people's reactions to crime and criminals are generally shaped by the mass media, then it seems reasonable to assume that public reactions to criminal cases are shaped by shows like CSI.

The implications of a better educated public are vast. Traditionally citizens who have not had direct police contact may rely on television or media portrayal of police officers as the reference for their perceptions (Watkins, 2004). Might all this CSI cause the public to overestimate the importance of physical evidence in criminal cases? In turn, if law enforcement perceives the public expects more evidence in criminal cases would a further erosion of trust between the police and the public could occur? Research in relations between the public and police reveal the general public are becoming less trusting of legal authorities (Tyler, 2006). Acceptance of the case put forward by the prosecution during a criminal trial is heavily dependent upon the public's willingness to trust the honesty and the competence of the state, including the police who collect evidence in a crime and the prosecutors who present the evidence at criminal trials. The criminal justice system in the United States requires a standard that the government must prove beyond a reasonable doubt the guilt of a defendant before they can be found guilty of an alleged crime. When a forensic test is available that would produce evidence of guilt or innocence it should be conducted by law enforcement. With rapidly changing technology in the field of forensics the criminal justice system, in particular law

enforcement, must also change. This study confirms that law enforcement believes that the criminal justice system is changing in the ways attorneys are presenting forensics in their trials. This study shows that law enforcement themselves are changing the ways they are conducting their investigations. The question which remains unanswered is are law enforcement changing their investigative practices as a result of advances in technology, training, and experience in the field of forensic science or are the reported changes unintended consequences of a perceived CSI effect?

This study has contributed to the literature adding a key area of study, law enforcement. Previous studies have asked similar questions as in this study to uncover alleged CSI effects but have focused on attorneys or members of the public's perceptions toward the CSI effect (Cather, 2004; Podlas, 2001, 2006a, 2006b; Starr, 2005; Thomas, 2004; Tyler, 2006; Watkins, 2004). Law enforcement perception is important and should be studied because they are the first to respond to a criminal offense and are often tasked with the responsibility of making sure all resources available have been dedicated to solving a crime. An expected response law enforcement may have if they perceive the public has higher expectations of the criminal justice system is to change the ways they investigate crimes. Law enforcement is familiar with the technology and science behind CSI type shows and knows what resources are available to them in solving crimes.

An area of concern lacking in this study is whether or not law enforcement themselves watch CSI and other crime scene shows. An argument could be made that law enforcement are immune from a CSI effect because they acknowledge the limitations of forensic science and know the reality behind the popular shows, or officers might be

drawing some of their assumptions about the CSI effect from the same media that the general public consumes. Future research might explore how much officers themselves watch CSI type shows and whether or not this is a mediating factor in their beliefs about the existence of a CSI effect. The respondents in this research are predominantly white males between the ages of 25 and 30. It is possible that the results here are particular to this demographic group. Are the police able to separate the fictional depictions of crime scene dramas from reality? Future research in this topic would be well served to explore whether or not this demographic group is more likely to view this sub-genre of television and if so what affect does it have on their perceptions.

The demographics of agency size and location derived from this research are important to understanding the perceived CSI effect presented by the respondents. The size of the responding agencies varied greatly, from one person departments to departments with several hundred employees. The median number of sworn officers in the respondent's agencies was 98. The majority of respondents were from small towns, with agencies typically employing less than 25 sworn officers. That the survey responses come primarily from officers in small agencies in small towns is important for a few reasons. The larger agencies have specialized crime scene investigative units where as the smaller agencies have less sophisticated operations, utilizing a detective and in some cases a patrol officer to collect evidence. Law enforcement officers from smaller jurisdictions may have more public interaction than those officers from larger departments for a variety of reasons. Smaller police departments naturally have fewer calls of service and reported crime than larger departments due to population and

geographic jurisdiction, allowing more time for officers to spend on investigations and with victims. As stated earlier the public is inundated with CSI type programming and media coverage of crime which could possibly alter their views of law enforcement and law enforcement abilities to investigate crime (Signorielli & Morgan,1996). These misconceived ideas of law enforcement procedures and abilities may cause law enforcement, particularly those officers from smaller departments who have limited experience or resources, to alter their investigative practices in response to questions and concerns generated by a public who has developed a distorted view of law enforcement because of television.

The rapidly evolving field of forensic science increases pressure on law enforcement agencies to collect evidence properly. In high profile cases, the news media highlights the importance of forensic science evidence but also focuses on mistakes in locating, identifying, securing, handling, and presenting forensic evidence. Law enforcement agencies have an increasing responsibility to locate and collect evidence in criminal cases. Failure to do so will not only lessen the likelihood of a criminal conviction but could further drive public mistrust in the law enforcement agency. Smaller law enforcement agencies often do not have the readily available technology to collect forensic evidence from crime scenes as do larger better funded law enforcement agencies. It is possible that law enforcement officers not familiar with the most advanced forensic tests to draw misconceptions about available forensic technology and therefore have beliefs that allude to a CSI effect.

Respondents in this study revealed that over the past five years they have increasingly collected and submitted DNA evidence for forensic analysis while analysis of fingerprints and trace evidence have remained about the same over the same period. It is important for these smaller departments to have qualified, competent officers who understand the importance of forensic evidence and who are knowledgeable about the wide array of forensic evidence possible at a crime scene. One could conclude that if training officers led them to be better able to handle crime scenes, more crimes would be solved. Additional training in the area of forensic science would provide law enforcement with positive benefits. An increased knowledge of forensics could lead to more crimes being solved in turn increasing the professionalism of law enforcement and improving law enforcement's image in the public. As with the respondent demographics mentioned above further research is warranted in regards to law enforcement agency size and the impact it has on perception. This study did not dissect the relationship between law enforcement agency size and individual officer perceptions. There is a wide range of agency size in this study giving cause to believe that this factor may be underlying some of the respondent's perceptions. It could be that respondents from larger departments have the training and technology provided to them to overcome any public concern about how crime scenes are investigated where as officers from smaller departments may be limited in the equipment they have to collect evidence. Another concern related to agency size is public interaction. Respondents from larger jurisdictions may have limited contact with the public where as respondents from smaller departments may have contact with the victim of a crime (the public) from the initial investigation all the way through court

disposition. This is an area for future research to address. This research does provide greater insight into law enforcement perceptions concerning a CSI effect than do previous studies on the CSI effect, but fails to uncover any tangible reason as to the elusive CSI effect.

Perhaps the most interesting finding in this study is that the law enforcement respondents overwhelmingly claim that their agency has changed their law enforcement practices to overcome a perceived CSI effect. This finding appears to be relevant regardless of agency size. Another interesting finding in this study is that a slight majority of respondents believe that “CSI” type shows had an effect on the public’s beliefs about how the police investigate crimes. This is a change from the available scholarly data denouncing claims of a CSI effect (Podlas, 2001, 2006a, 2006b; Tyler, 2006; Watkins, 2004). The fact that respondents report they believe “CSI” type shows effect the public’s beliefs about how the police investigate crimes is not shocking. We have already learned from the literature reviewed in this study that genre-specific viewing habits of viewers affect their perceived reality (Cohen & Weimann, 2000). The traditional anecdotal claims (Cather, 2004; Starr, 2005; Thomas, 2004) that “CSI” type shows distort the public’s view about the criminal justice system seem to be somewhat supported by the empirical evidence. Although not the purpose of this study, the data from this study also support other CSI effect research (Podlas, 2001, 2006a, 2006b; Tyler, 2006; Watkins, 2004) that there may be some phenomenon occurring in our society causing attorneys and law enforcement to perceive that the “CSI” type shows are having a negative effect on their cases.

This study surveyed a broad range of law enforcement officers from agencies in North Carolina. The questionnaires returned provide a good cross section of law enforcement from every type of jurisdiction found in the state. Large and small departments were represented as well as geographically diverse agencies. The results of the study revealed that law enforcement across the state regardless of size and location believed that a lack of forensic evidence was a concern among attorneys and law enforcement. The study further revealed that law enforcement believes that attorneys and law enforcement have increasingly been addressing forensic science in criminal trials to address potential CSI effects. The data shows changes over the past five years in training and evidence submissions to overcome potential CSI effects. This study included open ended questions to give the respondent an opportunity to provide specific detail to why they believe or disbelieve a CSI effect exist. This last section of open ended questions may provide the richest data relevant to this current study.

It is important to note that this was an exploratory study that looked at the perceptions of law enforcement officers regarding their beliefs in a CSI effect, not whether or not a CSI effect actually exists. There is much more that needs to be studied. Additionally, the current study only examined the perceptions of North Carolina law enforcement. It is possible that the perceptions of law enforcement officers could differ across the United States, although law enforcement in North Carolina is fairly representative of police across the United States.

The results uncovered in this study reveal that overall law enforcement perceive there is a CSI effect. Many of the responses to the open ended questions indicated law

enforcement were being questioned more frequently than in the past about what kinds of evidence were collected and what types of training the respondents had received. The majority of responses concerning changes in law enforcement as a result of perceived CSI effect related to the collection of more evidence from crime scenes and additional analysis of evidence. It should be clarified that the questionnaire did not ask respondents to discuss in detail the case facts of criminal cases believed to have been affected by a CSI effect. Instead the questionnaire merely asked the respondent to briefly describe cases in which they believed a CSI effect had changed the way a case was investigated. Perhaps by examining specific cases in detail researchers could unravel the true reasons regarding the particular outcome. Future research should be conducted to see what effect, if any, technology is having on police practices, particularly DNA analysis.

REFERENCES

- Allen, J., & Reiner, R. (2001). Audiences for Crime Media 1946–91: A Historical Approach to Reception Studies'. *Communication Review*, 4, 2, 165-192.
- Baukus, R. (1999). Perception of Mediated Social Conflict: Media Dependency and Involvement. In M. S. Mander (Ed.), *Social conflict in mass media*. University of Illinois.
- Blankstein, A., & Guccione, J. (2005, July). CSI effect hinted by Blake jurors. *Post Gazette*. [Online]. Retrieved October 23, 2007, from www.post-gazette.com/pg/05079/473831.stm.
- Blumberg, A. S. (1967). The practice of law as confidence game: Organization cooptation of a profession. *Law and Society Review*, 1, 15-39.
- Booth, B. (2004, May 9). Crime shows seeping into jury selections. *The Monitor*, pp. B4, B5.
- Botluck, B., & Mitchell, B. (2005, May 2). *Getting a grip on the CSI effect: The National Clearing House for Science and Technology and the Law at Stetson University College of Law*. [Online]. Available: LLRX.com.
- Bowman, L. (2005, February 21). TV cries not like real life science: ACSI@ brings forensic work to public and creates false expectations. *Long Beach Press*, p. 1.
- Bryant, J., & Zillman, D. (1986). *Media effects: Advances in theory and research*. University of Alabama: Lawrence Erlbaum publishers.

- Bureau of Justice Statistics. (2000). *Bureau of Justice statistics 2000: At a glance*.
 [Online]. Available: <http://www.ojp.gov/bjs/abstract/bjsag00.htm>.
- Cather, K. (2004). The CSI effect: Fake TV and its impact on jurors in criminal cases.
Prosecutor.
- Cavender, G., & Fishman, M. (1998). *Entertaining crime: Television reality programs*.
 New York: Aldine De Gruyther.
- Cohen, J., & Weimann, G. (2000). Cultivation revised: Some genres have some effects
 on some viewers. *Communication Reports*, 13, 99-115.
- Cole, S., & Dioso-Villa, R. (2005). The CSI Effect: The True Effect of Crime Scene
 Television on the Justice System. *New England Law Review*. 41(1). [Online].
 Retrieved July 30, 2007, from http://libproxy.uncg.edu:2084/universo/document?_m=445064a968e54fa1233ff57cfd91ae.
- Cole, G., & Smith, C. (2007). *Criminal Justice in America*. Belmont, CA: Wadsworth
 Publishing.
- Conboy, L., Domar, A., & O'Connell, E. (2001). Women at mid-life: Symptons, attitudes,
 and choices, an Internet-based survey. *Maturitas*, 38, 129-136.
- Dillman, D. (1999). *Mail and internet surveys: The tailored design method*. New York:
 Wiley & Son.
- Dowler, K. (2002). Media influence on citizen attitudes toward police effectiveness.
Policing and Society, 12(32), 227-238.
- Dribben, M. (2007, February 19). Jurors influenced by the popular TV shows
 increasingly demand prime-time-style evidence and lawyers must adjust. *The*

- Philadelphia Inquirer*. [Online]. Retrieved July 30, 2007, from <http://www.mywire.com/pubs/PhiladelphiaInquirer/2006/02/19/1233092?extID=10037&oliID=229>.
- Duffy, M. (2000). Web-based research: An innovative method for nursing research. *Canadian Oncology Nursing Journal*, 10(2), 45-49.
- Engel, R., & Worden, R. (2003). Police officers' attitudes, behavior, and supervisory influences: An analysis of problem solving. *Criminology*, 41(1), 131-166.
- Fishman, M. (1984). *Crime Waves as Ideology. Justice and the Media: Issues and Research*. Springfield, IL: Thomas Books.
- Fletcher, C. (2006). *Every contact leaves a trace*. New York: St. Martin's Press.
- Gerbner, G. (1977). TV Violence Profile: The highlights. *Journal of Communications*, 27, 171-180.
- Gilbert, J. (2007). *Criminal investigation*. Upper Saddle River, NJ: Pearson Education.
- Granello, D., & Wheaton, J. (2004). Online data collection: Strategies for research. *Journal of Counseling & Development*, 82, 387-393.
- Hagan, F. (1997). *Research methods in criminal justice and criminology*. Needham Heights, MA: Allyn & Bacon.
- Hannah, J. (2002, December 1). CSI puts heat on real investigators. *Charleston Gazette*, p. 4A.
- He, N., Zhao, J., & Lovrich, N. (2002). Police and the policed: A comparison of value orientations and Ideological Perspectives. *Police Practice and Research*, 3(3), 217-229.

- Heumann, M. (1978). *Plea Bargaining*. Chicago: University of Chicago Press.
- Hetsroni, A., & Tukachinsky, R. (2006). Television-world estimates, real-world estimates, and television viewing: A new scheme for cultivation. *Journal of Communication, 56*(1), 133-156.
- Himmelberg, M. (2007, July 22). Investigating a life in crime: Forensic experts use silent witness to bring justice. *Times News*, pp. F1, F2.
- Joinson, A. N. (1999). Social desirability, anonymity, and Internet-based questionnaires. *Behavior Research Methods, Instruments and Computers, 31*, 433-434.
- Kelling, G., & Kliesmet, R. B. (1996). Police unions, police culture, and police use of force. In W. A. Geller & H. Toch (Eds.), *Police violence: Understanding and controlling police abuse of force*. New Haven, CT: Yale University Press.
- Krift, F. (2006, June 30). The “CSI Effect” makes job tougher for today’s real-life detectives as crooks wise up. *The Beaumont Enterprise*, p. A1.
- Lipschultz, M., & Hilt, J. (2002). *Crime and Local Television News: Dramatic, Breaking, and Live From the Scene*. New Jersey: Lawrence Erlbaum.
- Littlejohn, S. (2002). *Theories of human communication*. Belmont, CA: Wadsworth.
- Mohandessi, N. (2006, March 2). Solving murders isn't like on TV: Solving murders in mobile MPD's homicide division: It's not as easy as the television shows would have you believe. *Mobile Register*, p. A1.
- Manning, P. K. (1997). Media loops. In F. Y. Bailey & D. C. Hale (Eds.), *Popular culture, crime, and justice*. Washington: Thompson publishing Company.

- Marenin, O. (2004). Police training for democracy. *Police Practice and Research*, 5(2), 107-123.
- Mastrofski, S., & Snipes, J. (2000). The helping hand of the law: Police control of citizens on request. *Criminology*, 38(2) 307-314.
- Moon, Y. (2000). Intimate exchanges: Using computers to elicit self-disclosure from consumers. *Journal of Consumer Research*, 27, 323-339.
- Nabi, R., & Sullivan, J. (2001). Does television viewing relate to engagement in protective action against crime? A cultivation analysis from a theory of reasoned action perspective. *Communication Research*, 28(6), 802-809.
- Neff, E. (2006, August 15). How real is CSI Effect? *Times News*, p. B2.
- Nielson Media Ratings. (June 16, 2008).
http://www.nielsenmedia.com/nc/portal/site/Public/menuitem.43afce2fac27e890311ba0a347a062a0/?show=%2FFilters%2FPublic%2Ftop_tv_ratings%2Fbroadcast_tv&vgnextoid=9e4df9669fa14010VgnVCM100000880a260aRCRD.
- Ogle, R. (2007). *Crime scene investigation and reconstruction: With guidelines for crime scene search and physical evidence collection*. Upper Saddle, NJ: Pearson Education.
- Podlas, K. (2001). Please adjust your signal: How television's syndicated courtrooms bias our juror citizenry. *American Business Law Journal*. 39, 1-24.
- Podlas, K. (2006a). The CSI Effect: Exposing the media myth. *Fordham Intell. Prop. Media & Ent. Law Journal*, 16, 429-465.

- Podlas, K. (2006b). The CSI Effect and other forensic fictions. *Loyola of Los Angeles Entertainment Law Review*, 27(2), 87-94.
- Potter, W. (1993). Cultivation Theory and research: A conceptual critique. *Human Communication Research*, 19(4), 564-601.
- Pyrek, K. (2007). *Forensic science under siege: The challenges of forensic laboratories and medical legal death investigation*. London: Elsevier Academic Press.
- Roane, K. (2005, April 25). The CSI Effect. *U. S. News & World Report*, p. 48.
- Robertson, I. (2006, January 4). Courts feeling CSI Effect: Prosecutors say jurors want more forensic evidence than ever before because of hit television dramas. *Toronto Sun*.
- Rivas, K. (2007, September 16). Guilty vs. not guilty. *Times News*, pp. A1, A2.
- Schaffer, D., & Dillman, D. (1998). Development of a standard e-mail methodology: Results of an experiment. *Public Opinion Quarterly*, 62(3), 378-39.
- Schleyer, T., & Forrest, J. (2000). Methods for the design and administration of web-based surveys. *J. Am Med Inform Assoc.*, 7, 416-425.
- Severin, W. J., & Tankard, J. W., Jr. (1992). The role of perception in communication. In *Communication theories: Origins, methods, and uses in the mass media*. New York: Longman.
- Signorielli, N., & Morgan, M. (1996). Cultivation Analysis: Research and Practice. In M. B. Salwen & D. W. Stacks (Eds.), An integrated approach to communication theory and research. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Starrs, J. (2005, March). The CSI Effect. *AAFS Newsletter*.

- Stockwell, J. (2005, May 30). CSI having effect on real-life court cases jurors reluctant to convict without forensic evidence, some prosecutors say, *Charleston Daily Mail*, pp. 13A.
- Surette, R. (1998). Media and the construction of crime and criminal justice. In *Media, crime, and criminal justice*. Belmont, CA: Wadsworth.
- Terrill, W., Paoline, E., & Manning, P. (2003). Police culture and coercion. *Criminology*, 41(4), 1003-1034.
- Thomas, A. (2005, September/October). The CSI Effect and its real-life impact on justice: A study by the Maricopa County Attorney's Office. *The Prosecutor*.
- Tyler, T. (2006). Viewing CSI and the threshold of guilt: Managing truth and justice in reality fiction. *Yale Law Journal*. [Online]. Retrieved July 30, 2007, from http://libproxy.uncg.edu:2048/universe/document?_m=2d52ef015ade008e96e7e41f87f77d.
- Volante, E., & Smith, K. (2005, March). CSI Effect impacts justice in Tuscon. *Arizona Daily Star*.
- Waddington, P. (1994). *Liberty and order: Public order policing in a capital city*. London: UCL Press.
- Watkins, M. J. (2004). *Forensics in the media: Have attorneys reacted to the growing popular forensic crime dramas?* Florida State University.
- White, S. O. (1972, Fall). A perspective on police professionalism. *Law and Society*.
- Willing, R. (2004, August). CSI Effect has juries wanting more evidence. *USA Today*.

Woo, H., & Dominick, J. R. (2003). Acculturation, cultivation, and daytime TV talk shows. *Journalism and Mass Communication*, 80.

APPENDIX
QUESTIONNAIRE

1.

Project Title: Law Enforcement Perception and the CSI Effect

Project Director: Gerald R Thomas

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the proposed procedures. This explanation describes the procedures, benefits, risk, and discomforts of the study. It also describes your right to withdraw from the study at any time and that data you provide will be kept confidential.

DESCRIPTION AND EXPLANATION OF PROCEDURES:

You are being asked to participate in a research study about potential perceptions law enforcement have about an alleged CSI Effect and changes, if any, law enforcement have made as a result of any perceptions they may have about a CSI effect. For the purpose of this study, the CSI Effect will be defined as the alleged effect CSI and similar crime scene drama television shows may have on the public causing them to interpret the absence of forensic evidence negatively against the prosecution in criminal trials.

You are being asked to participate because persons who have been in law enforcement roles and have conducted criminal investigations and / or crime scene investigations are the subject of this study.

This study involves completion of an online survey designed to examine the following: (1) Does law enforcement perceive that crime show dramas have an affect on the public's perception of law enforcement practices, and if so, 2) what changes in law enforcement practices have been made as a result of these perceptions. Responding to the online questions takes about 15 to 20 minutes.

RISK AND DISCOMFORTS

There are no foreseeable physical or psychological risk to you as you complete the online survey.

POTENTIAL BENEFITS

Potential benefits to the participant is the furtherance of research in the area of law enforcement perception and procedures concerning a CSI effect. There are no other benefits to individuals from the study.

CONFIDENTIALTY

Your answers to the survey will be kept on a secure server. Only the researcher certified by the UNCG Institutional Review Board will have access to the data using a secure password. While your answers are in transmission from your computer to the researcher the survey program will use data encryption in order to ensure data security. All data is recorded using a randomly selected ID code. No attempt will be made to identify you as an individual. Written and oral reports will never contain information about an individual person nor will any person or organization by name be identified in such reports.

By clicking NEXT at the bottom of the page, you are agreeing to participate in the project described to on this form.

By clicking the EXIT THIS SURVEY button in the top right corner, you are declining to participate in the project described to on this form and will be allowed to exit the survey without penalty.

The University of North Carolina at Greensboro Institutional Review Board, which ensures that research involving people follows federal regulations, has approved the research and this consent form. Questions regarding your rights as a participant in this project can be answered by calling Mr. Eric Allen at (336) 256-1482. Questions regarding the research itself will be answered by Gerald Thomas by calling 336-256-1336. Any new information that develops during the project will be provided to you if the information might affect your willingness to continue participation in the project.

Click "Next" to get started with the survey. If you'd like to leave the survey at any time, just click "Exit this survey".

2. Demographic Information

Today I am asking you to complete a survey questionnaire about some law enforcement practices at your agency. Please answer each question to the best of your knowledge.

The following questions are designed to provide general information about the agency and respondent of the survey.

This questionnaire concerns potential beliefs about a CSI Effect. For the purpose of this study a CSI Effect is defined as: The reference to the popular crime show dramas which allegedly raise the expectations of the public in court trials and other settings concerning forensic science.

1. Please check the choice that best describes your agency.

- Federal law enforcement State law enforcement Sheriff's Office Municipal police Campus or Special Police Other

2. Approximately how many law enforcement personnel work at your agency?

3. Approximately how many law enforcement personnel work at your location or section?

4. What is the title of your position within the law enforcement agency? For example: Chief of Police, Captain, Lieutenant, Crime Scene Specialist, Detective

5. How long have you been in law enforcement? (Years / Months)

6. How long have you been in your current assignment? (Years / months)

7. How long have you been at this location? (Years / months)

8. What is your sex?

- Male
 Female

9. How would you classify your race? Select all that apply.

- White (non - Hispanic)
- Hispanic / Latino
- Black or African American
- American Indian
- Alaska Native
- Native Hawaiian or Other Pacific Islander
- Asian
- Multi-racial
- Refuse (Do not read)

10. What is your age?

3. Criminal Investigations

The following set of questions concern the criminal investigations you and your agency conduct

11. Approximately how many criminal investigations does your agency investigate per month?

12. Approximately how many criminal investigations do you as the respondent investigate per month?

13. Describe the location your agency has jurisdiction over.

Metropolitan area

Small Town

Rural area

Suburban

Other (please specify)

4. Law Enforcement Perceptions

The following set of questions concern perceptions law enforcement may or may not have regarding a CSI effect. The CSI effect refers to the alleged affect, CSI and related crime scene shows may have on the public causing them to interpret the absence of forensic evidence negatively against the prosecution. The next set of questions are in reference to your experience during the past five years. If you have been in law enforcement less than five years then answer the questions as to your law enforcement experience.

14. Do you believe that a lack of forensic evidence has been an increasing concern among District Attorneys?

- There has been a significant increase in concern
- There has been a slight increase in concern
- There has been no change
- There has been a slight decrease in concern
- There has been a significant decrease in concern
- No Opinion - N/A

15. Do you believe that a lack of forensic evidence has been an increasing concern among defense attorneys?

- There has been a significant increase in concern
- There has been a slight increase in concern
- There has been no change
- There has been a slight decrease in concern
- There has been a significant decrease in concern
- No Opinion - N/A

16. Do you believe that a lack of forensic evidence has been an increasing concern among police officers?

- There has been a significant increase in concern
- There has been a slight increase in concern
- There has been no change
- There has been a slight decrease in concern
- There has been a significant decrease in concern
- No Opinion -N/A

17. Do you believe that a lack of forensic evidence has been an increasing concern among the public?

- There has been a significant increase in concern
- There has been a slight increase in concern
- There has been no change
- There has been a slight decrease in concern
- There has been a significant decrease in concern
- No Opinion - N/A

18. Do you believe that crime scene shows (i.e. CSI type shows) influence the public's beliefs about how the police investigate crimes?

- CSI has a significant influence on the public's beliefs about how police investigate crimes, but positively.
- CSI has a slight influence on the public's beliefs about how police investigate crimes, but positively
- CSI has no effect on the public's beliefs about how police investigate crimes
- CSI has a slight influence on the public's beliefs about how police investigate crimes, but negatively
- CSI has a significant influence on the public's beliefs about how police investigate crimes, but negatively
- No Opinion - N/A

19. Do you believe District Attorneys are specifically addressing forensic science in criminal trials to address any potential CSI effect?

- There has been a significant increase in District Attorneys addressing forensic science in criminal trials
- There has been a slight increase in District Attorneys addressing forensic science in criminal trials
- There has been no change
- There has been a slight decrease in District Attorneys addressing forensic science in criminal trials
- There has been a significant decrease in District Attorneys addressing forensic science in criminal trials

20. Do you believe defense attorneys are specifically addressing forensic science in criminal trials to address any potential CSI effect?

- There has been a significant increase in defense attorneys addressing forensic science in criminal trials
- There has been a slight increase in defense attorneys addressing forensic science in criminal trials
- There has been no change
- There has been a slight decrease in defense attorneys addressing forensic science in criminal trials
- There has been a significant decrease in defense attorneys addressing forensic science in criminal trials

21. Do you believe that you as the respondent are specifically addressing forensic science in criminal trials to address any potential CSI effect?

- There has been a significant increase in me as the respondent addressing forensic science in criminal trials
- There has been a slight increase in me as the respondent addressing forensic science in criminal trials
- There has been no change
- There has been a slight decrease in me as the respondent addressing forensic science in criminal trials
- There has been a significant decrease in me as the respondent addressing forensic science in criminal trials

5. Changes in Law Enforcement Practices

The following questions concern any changes which may have occurred as a result of any law enforcement perceptions of a CSI effect. The next set of questions are in reference to your experience during the past five years. If you have been in law enforcement less than five years then answer the questions as to your law enforcement experience.

22. Do you agree or disagree that North Carolina law enforcement agencies have altered their investigative practices in response to a CSI effect?

- I agree strongly that North Carolina law enforcement agencies have changed their investigative practices in response to a CSI effect
- I agree somewhat that North Carolina law enforcement agencies have changed their investigative practices in response to a CSI effect
- I neither agree or disagree that North Carolina law enforcement agencies have changed their practices in response to a CSI effect
- I disagree somewhat that North Carolina law enforcement agencies have altered their investigative practices in response to a CSI effect
- I disagree strongly that North Carolina law enforcement agencies have altered their investigative practices in response to a CSI effect

23. Has there been a change in the amount of DNA evidence your agency has submitted to a forensic laboratory for analysis during the past five years?

- There has been a significant increase in the submission of DNA evidence for forensic testing
- There has been a slight increase in the submission of DNA evidence for forensic testing
- There has been no change
- There has been a slight decrease in the submission of DNA evidence for forensic testing
- There has been a significant decrease in the submission of DNA evidence for forensic testing

24. Has there been a change in the amount of fingerprint evidence you agency has submitted to a forensic laboratory for analysis during the past five years?

- There has been a significant increase in the submission of fingerprint evidence for forensic testing
- There has been a slight increase in the submission of fingerprint evidence for forensic testing
- There has been no change
- There has been a slight decrease in the submission of fingerprint evidence for forensic testing
- There has been a significant decrease in the submission of fingerprint evidence for forensic testing

25. Has there been a change in the amount of trace evidence (hair/fiber/paint) your agency as submitted to a forensic laboratory for analysis during the past five years?

- There has been a significant increase in the submission of trace evidence for forensic testing
- There has been a slight increase in the submission of trace evidence for forensic testing
- There has been no change
- There has been a slight decrease in the submission of trace evidence for forensic testing
- There has been a significant decrease in the submission of trace evidence for forensic testing

26. Has there been a change in the type of evidence you or your agency have collected at crime scenes during the last five years?

- There has been a significant increase in the type of evidence collected at crime scenes
- There has been a slight increase in the type of evidence collected at crime scenes
- There has been no change in the type of evidence collected from crime scenes
- There has been a slight decrease in the type of evidence collected at crime scenes
- There has been a significant decrease in change in the type of evidence collected at crime scenes

27. Please check the ways (if any) your agency has implemented during the last five years to address any potential CSI effect. (Check as many as apply)

- Training for court testimony to overcome any CSI effect
- Training on new crime scene technology and evidence collection
- Legal updates to address any cases where forensic evidence was believed to be influential on the case outcome
- The creation or addition of specialized crime scene units or personnel
- The purchase of "cutting edge" evidence collection tools or supplies
- Other (please specify)

28. Can you provide an example of a question you are asked on the stand in court now that you would not have been asked five years ago related to forensics?

29. Without providing names, can you describe a case in which the CSI effect changed or altered the way you worked the case?

30. What types of training would you like to see the North Carolina Justice Academy provide to address any potential CSI effect?

31. Are there any other issues related to the CSI effect that have not been asked about in this survey you would like to share?

6. Thank you. There are no further questions.

Please click done to end the survey

Email forwarded with survey instrument

I am a graduate student under the direction of Professor Gwen Hunnicutt in the Sociology Department at the University of North Carolina at Greensboro. I am conducting a research study to assess whether or not North Carolina Law Enforcement perceive that a CSI effect exists and if so what changes in law enforcement practices may or may not have occurred as a result of these perceptions. I am requesting your participation, which will involve the completion of the attached survey. The survey will take approximately 15 minutes to complete. Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The questionnaire is anonymous. The results of the study may be published but your name will not be known. If you have any questions concerning the research study, please call me at 336-256-1336 or email me at grthomas@uncg.edu. Professor Hunnicutt can be reached at 336-334-3698 or gchunnic@uncg.edu. Your participation in this study is appreciated and will add to the research into the alleged CSI effect and the effects the CSI effect may have on law enforcement.

Sincerely,

Gerald Thomas