

## Blurring the Line between Fact and Fiction: Expert Opinions about Forensic Investigation Tools Represented on CSI

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People who follow the media are likely to have heard of the so-called *CSI effect*. *CSI: Crime Scene Investigation* and its related spin-offs are among the most popular television shows in North America (www.nielsenmedia.com). In recent years, newspapers and television news programs (e.g., *USA Today*, *the Toronto Star*, *CNN*) have reported on people's beliefs that *CSI* and other television crime dramas (e.g., *Law & Order*, *Bones*, *Crossing Jordan*) influence how people think about and behave relative to the legal system. As mentioned above, typically, the news media has referred to this influence as the *CSI effect*.

Recently, dozens of newspaper and magazine articles and TV news shows have reported on the *CSI Effect*. Examples of some of the headlines from articles about the *CSI effect* include "CSI effect' has juries wanting more evidence" (Willing, 2006) and "The CSI Effect: Does the TV crime drama influence how jurors think?" (CBS News, 2005). The results of one study in which news media reports about the *CSI Effect* were subjected to content analysis indicated that the news media reports frequently characterized the *CSI effect* as being negative, and assumed that juror expectations were being affected by the unrealistic portrayals of crime scene investigation on television crime dramas (see Patry et al., in press). Most references to the *CSI Effect* reflect the notion that it is an undesirable effect exhibited by jurors which results from their perceived expertise about forensic techniques and police investigations (see Tyler, 2006; Podlas, 2006). These reports suggest that watching *CSI* causes jurors to have unrealistic expectations about the quantity, and availability of scientific evidence. When the scientific evidence presented at trial fails to meet jurors' expectations, they are presumably more likely to acquit the defendant.

More specifically, our research shows that the *CSI effect* tended to be described in the popular media as having one of four impacts (Patry et al., in press). First, some articles described television crime dramas as having piqued student interest in topics such as biology, anthropology, psychology and other forensically relevant topics, and this has led to increased enrolments in these courses and programs at Colleges and Universities. A second category the articles fell into claimed that these shows have actually educated criminals in how to engage in criminal activity without getting caught.

The third theme of stories in the media reflects how jurors are purportedly influenced by *CSI*. Often, specific cases were mentioned. For example, jurors in the Robert Blake case (the actor who was charged but acquitted of murdering his wife) cited a lack of gunshot residue as a main reason for acquitting the actor (Keating, 2005). In another case, a man was acquitted because a jury foreman, a fan of *CSI*, convinced the other jurors to acquit because of lack of fingerprint evidence (Lotstein, 2004). A final general category of articles focused on how lawyers and other legal professionals have responded to the perceived *CSI Effect*. Most of these stories have focused on how lawyers have changed their behavior in court to address the *CSI effect* and its purported influence on jury decision-making.

This preoccupation with a possible effect of television crime dramas on our legal system is not limited to the popular press but rather reflects a genuine concern about this issue emerging from the legal community. In 2005, the Maricopa County Attorney's Office released a study about the *CSI Effect* (Maricopa County, 2005). Their study of 102 prosecuting attorneys yielded overwhelming evidence that prosecutors believe these TV crime dramas affect jury verdicts. The report cites a number of cases after which jurors

cited “CSI-related reasons” for their verdicts (e.g., the prosecution should have provided more physical evidence such as DNA or fingerprint). There is also evidence that these programs are influencing prosecutors’ trial strategies and pre-trial negotiations. The Maricopa County study shows that “52% of the prosecutors have engaged in plea negotiations...because they anticipated problems [due to] the CSI Effect,” (p. 8). Furthermore, “83% [of prosecutors] agree that jury instructions should include directing jurors not to use outside standards like those used in forensic crime television shows when making judgments of guilt or innocence,” (p.10). Our preliminary research with Canadian law enforcement professionals and lawyers demonstrates that they are also concerned about the CSI Effect but they are unsure of its exact nature or impact (Stinson et al., 2007).

In general, there is not a great deal of empirical evidence to support the conceptualizations of the CSI effect put forward by the media. Given this general lack of evidence, some scholars have argued that there is no CSI effect, and if there is one, that it is equally probable that it favors the prosecution (e.g., Tyler, 2006). If researchers are to examine carefully the CSI effect, an important early step is understand the truthful and fictional aspects of the program.

In a prior study, we conducted a content analysis of the first seasons of *CSI* and *CSI: Miami* (see Patry et al., in press). We sought to document the types of forensic procedures portrayed, the frequency of errors, and the types of sentiments expressed by characters on the show, such as the theme that scientific evidence, when properly gathered, leads to the truth. We identified over 75 forensic evidence techniques portrayed on the shows. The two most common types of forensic evidence were DNA evidence, which was present in 18.9% of the main story lines, and fingerprint evidence, which appeared 12% of the time. There was a consistent theme that “science is the only truth”. Finally, the perpetrator of the crime was successfully identified in 98% of the storylines. This is related to the fact that on *CSI*, evidence which conclusively points to the guilt of one suspect is almost always available at the crime scene – a condition which is far less common in real life. Importantly, on the *CSI* episodes we

examined, forensic investigators conducted scientific tests 72% of the time, whereas in real life, specialized laboratory technicians conduct scientific tests of forensic evidence (T. McCullough, personal communication, 2005). Thus, there is a clear difference between actual forensic investigations and the way that these investigations are portrayed on *CSI* shows.

So, it seems clear that *CSI* programming makes unrealistic portrayals of forensic techniques. But are the techniques themselves realistic? The present study was designed to shed light on the ways in which the information presented in *CSI* programs does and does not reflect reality, in order to develop a better sense of whether these programs are likely to cause bias among the general public.

## Method

### *Participants*

This study was a survey of 15 forensic experts employed by the Royal Canadian Mounted Police (RCMP), including RCMP staff officers as well as independent civilian experts who regularly consult with the RCMP. The median age of sample participants was 48; the median number of years of experience was 13.5. Participants were selected for their expertise in specific areas of forensic analysis: domains of forensic expertise represented in these data included: identification services, major crimes unit, police dog service, blood stain analysis, audio and video analysis, facial identification artistry, firearms, biology, anthropology, odontology, traffic, entomology, and forward looking infrared.

### *Survey Instrument and Sampling Method*

The objective of the study was to develop a comprehensive catalogue of expert opinions about the realism of various forensic techniques represented on *CSI*.

We developed a survey about numerous specific forensic techniques represented on the television crime drama program *CSI*. The survey represented 73 techniques that were portrayed on *CSI*, as identified in our prior content analysis of the program itself (see Patry et al., in press). In addition to its name, each technique in the master

survey included a brief description of the technique as portrayed on *CSI*.

The survey was broken up based on forensic content area and relevant portions of the overall survey distributed to experts in the respective content areas. Our objective was to obtain evaluations of techniques presented on the program by forensic experts in content areas closely aligned with the domain of expertise represented by the technique. In other words, experts commented only on those forensic techniques within their individual realms of expertise

### Results

Consistent with our prior research on forensic investigators and police officers (Stinson et al., 2007), forensic experts in the current study reported fairly high changes in the public's expectation of their profession as a result of television crime dramas such as *CSI*, see Table 1. Experts in the current study reported somewhat less extreme ratings of crime drama-related changes in their interactions with the public, and in their professional roles including their behaviour in court (see Table 1) as compared to our prior finding with generally less specialized law enforcement professionals (Stinson et al., 2007). Consistent with our prior research, experts in the current study had low ratings of the accuracy of television crime dramas in terms of what happens in actual cases:  $M = 2.5$  on a 7-point scale, see Table 1.

See Table 2 for the aggregated expert ratings of the 73 different forensic techniques represented in the survey (overall). The realism of the procedures was well above the median of the 7-point scale ( $M = 4.6$ ), and the scientific research supporting the use of the techniques was very high ( $M = 5.9$ ). The reliability/accuracy of the techniques, however, were rated quite low on the scale ( $M = 1.9$ ).

### Discussion

The current study utilized content-area experts in forensic evidence to help identify realistic and fictional aspects of the forensic techniques represented on *CSI*. Overall, forensic techniques portrayed on *CSI* have some basis in realism. This

Table 1. Expert Perceptions of CSI Effect

Item	Rating Mean (SD)
In your opinion, has the public's expectations of your profession changed due to these shows?	M = 5.0 (1.6)
In your opinion, have TV crime dramas changed the way in which you interact with the public?	M = 2.9 (1.8)
In your opinion, have TV crime dramas influenced your work or the way you do your job?	M = 2.9 (1.9)
In your opinion, have the public's expectations affected your behaviour in court?	M = 3.6 (1.0)
In your opinion, how accurate are TV crime dramas in portraying what happens in real court cases and investigations?	M = 2.5 (2.0)

*Note.* All measures were taken on seven-point bipolar scales ranging from 'not at all' to 'completely.'

Table 2. Expert Ratings of 73 Forensic Techniques Portrayed on CSI

Item	Rating Mean (SD)
Would you say the procedure described above is realistic?	M = 4.6 (2.0)
Is there scientific research supporting the use of such a technique?	M = 5.9 (1.6)
In your opinion, does this technique produce reliable or accurate results?	M = 1.9 (0.3)

*Note.* All measures were taken on seven-point bipolar scales ranging from 'not at all' to 'completely.'

is evidenced by the expert ratings of the realism of the procedures, and especially by their high ratings of the scientific research supporting the techniques. According to this survey of content-area experts, the techniques are generally technically feasible and are supported by research.

However, it is clear from these data that the reliability and accuracy of scientific techniques is distorted on these programs. This is consistent with our prior research with police officers and death investigators indicating that there are major distortions in terms of the ways in which the techniques are portrayed on *CSI* (e.g., timing, personnel, availability) (see Patry et al., 2007).

We conclude that the blurry line between fact and fiction lies just beyond the forensic tests themselves. While the tests themselves are technically feasible and their use is supported by research, according to this sample of content-area experts, the accuracy and reliability of the techniques are far more limited than they ways in which they are generally presented on *CSI*.

What implications does this have in terms of public awareness of police procedures? It is possible that viewers of these programs are 'learning' both accurate and inaccurate information about forensic evidence. Viewers of the program may be learning a good deal of valid information from the program, but they may also be inculcated with biases about the accuracy and reliability of these scientific tools. What is clear from the present study is that a good deal of the information presented on *CSI* has a firm basis in reality, but that this realism is countered by distortions of the reliability of the science as portrayed on the program. Further research is needed in order to pinpoint the specific ways in which this type of programming may impact public perceptions in general, and jury decision making more specifically.

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