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Steven M. Smith

Saint Mary's University, steven.smith@smu.ca

Veronica Stinson

Saint Mary's University, veronica.stinson@smu.ca

Marc W. Patry

Saint Mary's University, marc.patry@smu.ca

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Fact or Fiction? The Myth and Reality of the CSI Effect

Steven M. Smith, Veronica Stinson, & Marc W. Patry

Anyone who has been to a crime lab or experienced the presentation of forensic evidence in open court knows that there is a disconnect between the way forensic science is depicted on popular television programs and the reality of criminal investigations. The number of forensically themed television shows and popular entertainment has exploded over the last decade, and shows such as *Crime Scene Investigation (CSI)* and its related spin-offs are among the most popular shows in North America. Indeed, *CSI* is consistently among the top ten shows in a given week,¹ and *CSI: Miami* was rated the most popular television show in the world in 2005.² These and other television crime dramas,³ “true life” crime shows,⁴ and popular books⁵ have piqued interest in the power of forensic analysis to solve crimes. This has not remained in the fictional realm. Recently, newspapers and television news programs have focused on new forensic techniques, and frequently focus on the importance of forensic evidence presented in real life trials⁶ for convicting the guilty.

Perhaps not surprisingly, this perceived increase in interest in forensic investigations and the value of forensic science has made people wonder what effect, if any, it may be having on juror decision making and jury verdicts. The news media⁷ are also wondering, and have been exploring opinions and providing anecdotes of how television crime dramas may be influencing the ways in which people think about criminal investigations and behave relative to the legal system.⁸ Perhaps due to its prominence on television (episodes can be seen at any time of day in most time zones) the media has typically referred to this potential influence as the “CSI effect.”

WHAT IS THE CSI EFFECT?

Typically, media reports of the CSI effect include references to an undesirable effect exhibited during jury trials, which results from jurors’ reactions to the presence or absence of “appropriate” scientific evidence as trial exhibits.⁹ Essentially, the argument is that watching *CSI* causes jurors to have unrealistic expectations about the quantity, quality, and availability of scientific evidence.¹⁰ When the scientific evidence presented at trial fails to meet jurors’ television-enhanced expectations, they are more likely to acquit the defendant. This version of the CSI effect is what Cole and Dioso-Villa call the Strong Prosecutor’s Effect.¹¹

Cole and Dioso-Villa also refer to the Weak Prosecutor’s Effect, which focuses on the effect that *CSI* may have on prosecutors’ behaviors.¹² Specifically, the Weak Prosecutor’s Effect describes behaviors designed to counter jurors’ supposed heightened expectations of forensic science. These are essentially tactical changes that do not necessarily change trial outcomes, but are relevant to the legal community. A less common version of the CSI effect—at least as reported by the media—is one that favors the defense bar.¹³ This position argues that the favorable portrayal of forensic scientists in the media increases their credibility, making their testimony highly compelling and influential in verdicts.

The CSI effect is being discussed in legal circles¹⁴ and in legal decisions. Most notably, in *State v. Cooke*, the Superior Court of Delaware explored the relevance and impact of the CSI effect.¹⁵ In this case, Cooke challenged the prosecution’s use of ten types of forensic evidence (including DNA, footwear impressions, tool marks, handwriting, and fabric impressions, among others) as being either exculpatory or unreliable, and as

Footnotes

1. The Nielsen Company [no author], April 15, 2011, <http://www.nielsen.com/us/en/insights/top10s/television.html>.
2. BBC News [no author], July 31, 2006, <http://news.bbc.co.uk/2/hi/entertainment/5231334.stm>.
3. E.g., *Crossing Jordan*, *Bones*, and *Law & Order* and its spin-offs.
4. E.g., *The First 48*, *Cold Case Files*, and others.
5. E.g., the best-selling Kathy Reichs novels.
6. E.g., the O.J. Simpson and Robert Blake murder trials.
7. E.g., *USA TODAY*, *THE TORONTO STAR*, *CNN*.
8. See Tom R. Tyler, *Viewing CSI and the Threshold of Guilt: Managing Truth and Justice in Reality and Fiction*, 115 *YALE L.J.* 1050, 1050-85 (2006); Kimberlianne Podlas, “*The CSI Effect*”: *Exposing the Media Myth*, 16 *FORDHAM INTELL. PROP. MEDIA & ENT. L.J.* 429, 429-65 (2006).
9. See Tyler, *supra* note 8, at 1052; Podlas, *supra* note 8, at 433.
10. See e.g., Marc W. Patry, Steven M. Smith & Veronica Stinson, *CSI Effect: Is Popular Television Transforming Canadian Society?*, in

- COMMUNICATIONS IN QUESTION: CANADIAN PERSPECTIVES ON CONTROVERSIAL ISSUES IN COMMUNICATIONS STUDIES 291 (Joshua Greenberg & Charlene Elliot eds., 2008); Steven M. Smith, Marc W. Patry & Veronica Stinson, *But What is the CSI Effect?: How Crime Dramas Influence People’s Beliefs about Forensic Evidence*, 5 *CAN. J. POLICE & SECURITY SERVICES* 187, 187-95 (2007); Veronica Stinson, Marc W. Patry & Steven M. Smith, *The CSI Effect: Reflections from Police and Forensic Investigators*, 5 *CAN. J. POLICE & SECURITY SERVICES*, 125, 125-33 (2007).
11. Simon A. Cole & Rachel Dioso-Villa, *CSI and Its Effects: Media, Juries, and the Burden of Proof*, 41 *NEW ENG. L. REV.* 435, 435-69 (2007), at 447.
 12. Cole & Dioso-Villa, *supra* note 11, at 448.
 13. Tyler, *supra* note 8, at 1064; Cole & Dioso-Villa, *supra* note 11, at 448.
 14. E.g., Michael D. Mann, Comment, *The “CSI Effect”: Better Jurors through Television and Science?*, 24 *BUFF. PUB. INT. L.J.* 211 (2006).
 15. *State v. Cooke*, 914 A.2d 1078 (Del. 2007).

such it should have been excluded.¹⁶ The State argued that it needed to produce this evidence for the jury for two reasons: 1) to demonstrate to the jury that it has a solid case grounded in the products of a thorough investigation; and 2) to offset the heightened expectations of the prosecution that the State believes jurors hold due to the CSI effect. Interestingly, although the Court found that there was no scientific evidence to support the existence of the CSI effect, it also could not deny its own experience of juries' heightened expectations of forensically relevant evidence.

Some attorneys and trial consultants have also noticed this purported increase in jurors' expectations and have incorporated this issue into their trial strategy. Consider the well-publicized case of Robert Durst who was acquitted of murder. In this case, defense jury consultant Robert Hirschhorn's jury selection strategy included using CSI viewing habits as a criterion for retaining prospective jurors. "In the Durst case...we had a lot of jurors . . . that watched those kinds of shows because we knew that the fact that the head was missing, and the head of Morris Black was where the cause of death was, in the absence of that, the prosecution couldn't win. . ."¹⁷

As both Winter and York¹⁸ and the *State v. Cooke* decision¹⁹ suggest, the lack of clarity surrounding the CSI effect puts the prosecution in an awkward position. If the prosecution presents forensic evidence simply for the sake of presenting such evidence, it risks criticism for presenting irrelevant exhibits. Alternatively, not presenting such evidence means the prosecution risks disappointing the jury. Winter and York end their review of the case by calling for additional empirical evidence to be brought to bear on the question of the nature and impact of the CSI effect. Because several empirical studies have been published since the *State v. Cooke* decision, the purpose of this paper is to provide an overview of what is currently known about the nature and impact of the so-called CSI effect.

RECENT RESEARCH ON THE CSI EFFECT

One of the first in-depth analyses of the CSI effect came from an examination of the perceptions and behaviors of members of the Maricopa County Prosecuting Attorney's Office.²⁰ Maricopa County conducted a survey of 102 prosecutors to assess how lawyers perceived CSI and related shows to be having an impact on legal proceedings. Importantly, the Maricopa County report also addressed how prosecutors are responding to the perceived impact of the CSI effect. One result of the sur-

vey is clear—these lawyers believe CSI is having an effect on jurors. Thirty-eight percent of attorneys reported they had lost a case because of the CSI effect; 45% contended that jurors relied on scientific evidence more than they should; and 72% maintained that CSI fans exerted undue influence on other jurors. In terms of solutions to the problem, 70% of prosecutors asked jurors about television-viewing habits during *voir dire*, 90% took the time to explain police procedures to jurors during testimony, and an astounding 52% plea bargained cases when they thought CSI-educated jurors might object to the evidence (or lack thereof) presented in the case. It is clear that CSI is having an effect on some prosecutors, but the question of whether or not it influences other players in the legal system remains to be answered.

If it is true that there is no real CSI effect, the approach of trying to counter the *perception* of a CSI effect may be counterproductive, as countering a bias that does not exist may actually backfire. Indeed, the social psychological literature is clear that instructions (e.g., judicial instructions given to a jury before deliberations) designed to overcome a bias are most effective if one is clear about the nature and corrections of the existing bias.²¹ Incorrect assessment of bias can lead to people over- or under-correcting for that bias.²² Of course, the legal community is interested in whether or not crime dramas influence jury outcomes.

To date, little evidence addresses this question, but two studies inform this issue. In Podlas's study, participants read a scenario of an alleged rape, which was based entirely on the credibility of witnesses (no forensic evidence was presented), then rendered a verdict and reported on the basis for their decision.²³ Importantly, Podlas also examined the extent to which CSI-viewing habits influenced juror decisions. Podlas found that frequent viewers of CSI were no more likely to cite the lack of forensic evidence for their not-guilty verdicts as compared to infrequent viewers.

In a survey of 1,027 Michigan prospective jurors, Shelton, Kim, and Barak found that 46% of summoned jurors expected to see some kind of scientific evidence as part of the prosecution's case.²⁴ When asked to consider more serious charges (e.g., murder), the proportion of summoned jurors who expected to see forensic evidence increased to 74%. Interestingly, watching CSI was only marginally associated with increased expectations of scientific evidence and assessments of guilt, but the reasons for this trend are unclear.

16. Ryan J. Winter & Rachel M. York, *The "CSI Effect": Now Playing in a Courtroom Near You?*, 38 MONITOR ON PSYCHOL. 54 (2007) (for a more in-depth review of this case).

17. Robert Hirschhorn on American Morning, August 6, 2004, <http://transcripts.cnn.com/TRANSCRIPTS/0408/06/1tm.04.html>.

18. Winter & York, *supra* note 16, at 54.

19. *State v. Cooke*, 914 A.2d 1078 at 1088.

20. Maricopa County Attorney's Office, CSI: MARICOPA COUNTY: THE CSI EFFECT AND ITS REAL-LIFE IMPACT ON JUSTICE (2005), available at http://www.ce9.uscourts.gov/jc2008/references/csi/CSI_Effect_report.pdf

21. See e.g., Duane T. Wegener, Norbert L. Kerr, Monique A. Fleming

& Richard E. Petty, *Flexible Correction of Juror Judgments: Implications for Jury Instructions*, 6 PSYCH PUB POL, & L. 629, 629-54 (2000).

22. See Duane T. Wegener & Richard E. Petty, *The Flexible Correction Model: The Role of Naïve Theories of Bias in Correction*, in 29 ADVANCES IN EXPERIMENTAL SOCIAL PSYCHOLOGY 141 (Mark P. Zanna ed., 1997).

23. Podlas, *supra* note 8, at 454.

24. Donald E. Shelton, Young S. Kim & Gregg Barak, *A Study of Juror Expectations and Demands Concerning Scientific Evidence: Does the "CSI Effect" Exist?*, 9 VANDERBILT J. ENT. & TECH. L. 331, 349 (2006).

RECENT RESEARCH ON THE CSI EFFECT

In addition to the above cited research, we have conducted a substantial amount of research exploring the nature and consequences of the CSI effect. We first wanted to achieve a comprehensive understanding of how the CSI effect was described in the media. Therefore, we analyzed 250 newspaper articles from a broad array of media outlets. We found that the CSI effect tended to be described as having one of four impacts: 1) increasing student interest in forensically relevant topics (e.g., anthropology, biology, psychology), which results in higher student enrollments in relevant courses and programs; 2) educating criminals in how to engage in criminal activity without getting caught; 3) influencing jurors to acquit defendants; and 4) influencing how lawyers and other legal professionals behave. Interestingly, these news reports frequently characterized the CSI effect as having a negative effect.

Our next study was a content analysis²⁵ of the first seasons of *CSI* and *CSI: Miami*.²⁶ We documented the types of forensic procedures portrayed, the frequency of errors, and the frequency with which criminals were caught. We identified that in the two first seasons, over 75 types of forensic evidence were portrayed in the various storylines. The two most popular forms of evidence presented in any particular storyline were DNA (19%) and fingerprinting (12%). Consistent with Tyler's expectations, the criminal was caught in 97% of the storylines.²⁷ Importantly, technical errors and mistakes were rare and were always caught before any negative consequences could arise. Contrary to real-life investigation, crime scene investigators conducted 72% of the scientific tests portrayed on *CSI*. In actual investigations, specialized laboratory technicians conduct the majority of tests. Thus, there appears to be a clear difference between actual forensic investigations and their popular portrayals.

To assess the discrepancies between reality and fiction, we conducted a survey of 15 forensic experts employed by Canadian police agencies.²⁸ Participants were selected for their expertise in specific areas of forensic analysis, including identification services, major crimes, police dog service, blood stain analysis, audio and video analysis, facial identification artistry, firearms, biology, anthropology, odontology, traffic, entomology, and forward-looking infrared. The forensic experts were presented with a catalogue of 73 forensic techniques. Each technique was identified by name and a description of how the technique was portrayed on *CSI*. Experts commented only on those forensic techniques for which they had

expertise. Overall, experts indicated that the accuracy levels of the *CSI* shows to be relatively low, rating them as 2.5 on a 7-point scale. The specific techniques however, were given relatively positive ratings. The realism of the procedures was above the midpoint of the 7-point scale ($M = 4.6$), and experts reported that the scientific research supporting the use of the portrayed techniques was quite high ($M = 5.9$). The reliability/accuracy of the techniques, however, were rated quite low on the scale ($M = 1.9$), which likely reflects that *CSI* often portrays highly technical, experimental techniques.

In two subsequent studies we surveyed other legal professionals to assess their views on the CSI effect itself.²⁹ First we surveyed 127 death investigators³⁰ on their perceptions of the CSI effect, as well as the extent to which watching crime dramas had influenced their day-to-day interactions with the public. The death investigators confirmed that crime dramas are somewhat inaccurate in their portrayals, and have changed the way in which police practice, investigate, and interact with the public. The vast majority (94%) indicated that television crime shows had influenced the public's expectations of their profession and conduct. Our next study asked a similar set of question for 36 "on the beat" police officers, but added follow-up questions on the extent to which *CSI* and similar shows influenced juries, criminal behaviors, and perceptions of the legal system. Although most of the police officers (68%) indicated that *CSI* had no effect on their behavior, consistent with the death investigators study, almost all (92%) indicated that the shows had some effect on public expectations. Interestingly, all respondents felt that *CSI* affected people's *perceived* knowledge of forensic techniques, but most thought that knowledge gained from these shows was inaccurate. Police officers estimated that the shows depicted a 94% solution rate (very similar to our content analysis findings), yet they estimated that only 40% of crimes are solved in the real world.³¹

We next turned to the impact crime dramas may be having on potential jurors.³² We surveyed 320 jury-eligible adults from a wide range of age and employment backgrounds on their perceptions of several types of evidence, including DNA, fingerprinting, toxicology, confession evidence, eyewitness evidence, compositional description of materials (e.g., the percentage of base materials found in bullets), arson evidence, physical pathology, ballistics, matching (i.e., fiber), and handwriting analysis. DNA and fingerprint evidence were consistently rated by the public as significantly more reliable than other forms of evidence.

25. Content analysis, in this context, means that we coded the data about the television programs (these data are termed "qualitative" data), established interrater reliability (meaning that we calculated the degree of congruence between independent raters), and determined quantitative estimates of the program elements (e.g., DNA, fingerprinting, etc.) discussed in this paragraph.

26. See Patry et al., *supra* note 10, at 294.

27. Tyler, *supra* note 8, at 1050.

28. See Marc W. Patry, Veronica Stinson & Steven M. Smith, *Blurring the Line between Fact and Fiction: Expert Opinions about Forensic Investigation Tools Represented on CSI*, in PROCEEDINGS OF THE 2007 NORTH AMERICAN CORRECTIONAL AND CRIMINAL JUSTICE PSYCHOLOGY

CONFERENCE (2008), pp. 94-97).

29. See Stinson et al., *supra* note 10, at 125.

30. Eighty-three police officers, 28 medical examiners, 7 fire/arson investigators, and 6 others.

31. See Stinson et al., *supra* note 10, at 130.

32. Steven M. Smith, Veronica Stinson, and Marc W. Patry, *Exploring the CSI Effect: Is It Real? If so, What Is It?*, Address at North American Correctional and Criminal Justice Psychology Conference, in PROCEEDINGS OF THE NORTH AMERICAN CORRECTIONAL & CRIMINAL JUSTICE PSYCHOLOGY CONFERENCE, 2008, at 83., at 83.

Of course, the real question is, how are public perceptions influenced by television-viewing habits? To assess this we collected data from 148 participants on beliefs regarding forensic evidence (as above) and their self-reported viewing of *CSI* and *Law and Order* (as well as almost 30 other television programs).³³ Increased viewing of forensically themed crime dramas predicted favorable views toward a number of types of scientific evidence (but importantly, not non-scientific evidence). Thus watching *CSI* and related shows does seem to influence beliefs about forensic evidence. Of course, the reverse may be true—perhaps people who believe in the validity of these techniques gravitate toward crime drama for their entertainment. Thus, the causal relationship was not yet established. Therefore, we conducted another study to test a causal link between exposure to *CSI* and attitudes toward forensic evidence.

We randomly assigned 190 university students to watch zero, four, or eight episodes of *CSI*.³⁴ Compared to those who did not view *CSI*, participants who watched four to eight episodes of *CSI* had higher estimates of the accuracy and reliability of DNA and fingerprint analysis, and had more confidence in their judgments about the reliability of DNA analysis. It is quite possible that this effect occurs because DNA and fingerprint analysis are the techniques most commonly portrayed on the show. Nonetheless, this study shows that with exposure to as few as four episodes of *CSI*, people's perceptions of forensic evidence can start to change.

In the final study we will present here, perhaps most relevant to legal proceedings, we explored the extent to which people's attitudes toward forensic evidence can be altered based on interventions. Specifically, in an attempt to counter the impact of television crime dramas on potential jurors' attitudes, we showed 63 jury-eligible adults a video titled "Reasonable Doubt," produced by CNN. The video has four segments, which provide a critical examination of the quality of DNA, compositional, fingerprint, and fiber evidence. After watching the video (initial attitudes had been recorded weeks earlier in an ostensibly unrelated task) participants rated forensic techniques as less reliable. Importantly, and consistent with our previous work, watching the documentary did not influence ratings of non-scientific evidence (motive, opportunity, confessions, and alibi evidence).

SUMMARY AND CONCLUSIONS

To date, and based on the results of the studies we and others have conducted, it seems clear that some form of CSI effect does exist. In addition to bringing their life experiences and common sense to the deliberation room, jurors may also be bringing their understanding of the legal system and forensic evidence as portrayed on recent episodes of *CSI* and *Law and Order*. Shelton et al. suggest that the source of jurors' increased expectations of forensic evidence is not simply television crime dramas but the result of a more widespread cultural change

linked to a technological and scientific revolution.³⁵ They argue that a more accurate term for this phenomenon is the "tech effect."³⁶ Regardless of which terminology is used, are jurors' demands for and expectations surrounding forensic evidence jeopardizing justice? To our knowledge, there is no evidence supporting this notion.

It also seems clear that some lawyers believe television crime dramas affect juror expectations of forensic science and are modifying their trial strategies to compensate for an anticipated CSI effect. Are these countermeasures justified? What consequences might these actions have? An important and related question that remains unanswered is how the CSI effect influences trial proceedings. The results of our research, as well as the research done by the Maricopa County Prosecutors' office, suggests that legal professionals are working to counter the CSI effect. Yet, to date there is no evidence that the CSI effect has any influence on jury decision making.

Thus, based on research by Wegener et al.,³⁷ we must ask if the effort made by prosecutors to counter the CSI effect may in fact be creating a problem rather than solving one. Indeed, our research suggests that people who watch *CSI* judge forensic evidence to be *more* reliable and accurate. This supports the notion of a pro-prosecution bias when that evidence is provided at trial.³⁸ Understanding the nature and magnitude of any bias is necessary before any intervention is appropriate, or else a larger problem could be created than the one being "fixed."

Many questions surrounding the CSI effect remain unanswered. More research is needed to understand fully the nature and consequences of watching television crime dramas on jurors. Although television crime dramas appear to be influencing people's views of forensic evidence, the police, criminal investigations, and the courts, there is to date no evidence that television crime dramas influence either jury decision making or trial outcomes.



Steven M. Smith, Veronica Stinson, Marc W. Patry, Department of Psychology, Saint Mary's University, Halifax, Nova Scotia, Canada, B3H 3C3. Support for this research was provided by SSHRC grants to the first and second authors and an NSHRF grant to the first author. The authors contributed equally to this research and manuscript. Correspondence regarding this paper may be addressed to any of the authors at the above address or via electronic mail at steven.smith@smu.ca, veronica.stinson@smu.ca, or marc.patry@smu.ca.

33. See Smith et al., *supra* note 10, at 189.

34. See Smith et al., *supra* note 10, at 190.

35. See Shelton et al., *supra* note 24, at 362.

36. *Id.*

37. See Wegener et al., *supra* note 21, at 629.

38. See, e.g., Tyler, *supra* note 8, at 1050.