

JUROR EXPECTATIONS FOR SCIENTIFIC EVIDENCE IN CRIMINAL CASES: PERCEPTIONS AND REALITY ABOUT THE “CSI EFFECT” MYTH

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I. INTRODUCTION

The media and the public have long had a fascination with the criminal-justice system, and that fascination has been reflected in film and television, both as news and fiction. Recently, the most popular fictional courtroom portrayals have been based on the use of modern science and technology to solve crimes. *CSI: Crime Scene Investigation* is so popular that it has spawned other versions of the same show and similar shows by other networks.¹ *CSI* has been called the most popular television

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1. Paige Albinak, *Sizzling ‘CSI’ Reruns: Off-net Procedurals Stay Strong*, BROADCASTING & CABLE, Nov. 3, 2008, at 9; see Tim K. Franklin, *Bones, CSI, and the Art of Forensic Science*, July 20, 2009, <http://ezinearticles.com/?Bones,-CSI,-and-the-Art-of-Forensic-Science&id=2638177>.

show in the world.² It and similar shows dominate traditional television ratings; Table 1 shows the Nielsen ratings for one week in October 2009.³ Over 42 million people watched at least one of the three *CSI* shows.⁴ How many of those viewers reported for jury duty the next day?

Table 1: Nielsen Television Ratings for Network Primetime Series—
October 11, 2009

Rank	Program Name	Network	Viewers
1	NCIS	CBS	20,702,000
2	DANCING WITH THE STARS	ABC	16,350,000
3	NCIS: LOS ANGELES	CBS	16,310,000
4	NBC SUNDAY NIGHT FOOTBALL	NBC	16,017,000
5	CSI	CBS	14,897,000
6	THE MENTALIST	CBS	14,704,000
7	60 MINUTES	CBS	14,537,000
8	GREY'S ANATOMY	ABC	14,126,000
9	CRIMINAL MINDS	CBS	14,053,000
10	HOUSE	FOX	13,738,000
11	THE GOOD WIFE	CBS	13,693,000
12	CSI: MIAMI	CBS	13,433,000
13	DESPERATE HOUSEWIVES	ABC	13,423,000
14	TWO AND A HALF MEN	CBS	13,296,000

2. *CSI* show “most popular in world,” BBC NEWS, July 31, 2006, <http://news.bbc.co.uk/2/hi/entertainment/5231334.stm>; *CSI Earth's No. 1 Show*, N.Y. POST, June 17, 2008, available at http://www.nypost.com/p/entertainment/tv/item_WKDOqHHYXBgcKFGWy2xaP.

3. Zap2it.com, *Nielsen Television (TV) Ratings for Network Primetime Series*, <http://www.zap2it.com/tv/ratings/> (last visited Oct. 19, 2009).

4. However, many of those viewers could be the same people because many viewers who watch *CSI* also watch other law-related programs, including the *CSI* spin-offs. Donald E. Shelton, Young S. Kim & Gregg Barak, *A Study of Juror Expectations and Demands Concerning Scientific Evidence: Does the “CSI Effect” Exist?*, 9 VAND. J. ENT. & TECH. L. 331, 346 (2006) [hereinafter Shelton et al., *Juror Expectations*].

15	BIG BANG THEORY, THE	CBS	12,515,000
16	CSI: NY	CBS	12,426,000
17	DANCING WITH THE STARS RESULTS	ABC	12,420,000
18	SUNDAY NIGHT NFL PRE-KICK	NBC	12,317,000
19	SURVIVOR: SAMOA	CBS	11,694,000
20	AMAZING RACE 15	CBS	10,518,000

As these shows proliferated, prosecutors complained that all of the television fiction about forensic-science evidence made jurors expect too much of the government and that juries were *wrongfully* acquitting defendants when the prosecution did not present the kind of evidence that they saw on *CSI*; the news media picked up on these complaints, accepted them as factual, and quickly labeled it the “CSI Effect.”⁵ The mass-media-

5. Some of the media reports were compiled in 2006. See Press Release, Monica Amarello, Am. Ass’n for the Adv. of Sci., *Pathologists Say TV Forensics Creates Unrealistic Expectations* (Feb. 21, 2005), www.aaas.org/news/releases/2005/0221csi.shtml; Tresa Baldas, *Lawyers Report Jurors Gone Wild*, THE NAT’L L.J., May 20, 2005, available at <http://www.law.com/jsp/article.jsp?id=1116493511186>; Andrew Blankstein & Jean Guccione, “*CSI Effect*” or Just Flimsy Evidence? *The Jury Is Out: The Blake Case Raises the Issue of Whether Forensic Shows Influence How Much Proof is Needed*, L.A. TIMES, Mar. 18, 2005, available at <http://articles.latimes.com/2005/mar/18/local/me-jurors18>; “*CSI Effect*’ Making Cases Hard To Prove: Lawyers, ABC NEWS ONLINE, Sept. 24, 2005, <http://www.abc.net.au/news/newsitems/200509/s1467632.htm>; Brian Dakss, “*The CSI Effect*: Does the Crime TV Drama Influence How Jurors Think?”, CBS NEWS, Mar. 21, 2005, <http://www.cbsnews.com/stories/2005/03/21/earlyshow/main681949.shtml>; Linda Deutsch, *TV Distorting Jurors Expectations?*, SEATTLE TIMES, Jan. 15, 2006, available at http://seattletimes.nwsources.com/html/nationworld/2002741126_tvlaw15.html; Laura DiBenedetto-Kenyon, *The CSI Factor*, Gov’t Video, Apr. 29, 2005, <http://www.governmentvideo.com/article/30016>; Karen Florin, *Crime TV: A Bad Influence on Juries?*, THE DAY, July 29, 2006, available at <http://www.theday.com/article/20060729/DAYARC/307299969>; Robin Franzen, “*CSI*’ Effect on Potential Jurors Has Some Prosecutors Worried”, SAN DIEGO UNION-TRIBUNE, Dec. 16, 2002, at D6, available at <http://pqasb.pqarchiver.com/sandiego/access/269023971.html?FMT=ABS&FMTS=ABS:FT&date=Dec+16%2C+2002&author=Robin+Franzen&pub=The+San+Diego+Union+-+Tribune&edition=&startpage=D.6&desc=%27CSI%27+effect+on+potential+jurors+has+some+prosecutors+worried>; Amy Lennard Goehner et al., *Television: Where CSI Meets Real Law and Order*, TIME, Nov. 8, 2004, at 69, available at <http://www.time.com/time/magazine/article/0,9171,995588,00.html>; Ayaz Nanji, *Prosecutors Feel the “CSI Effect,”* CBS NEWS, Feb. 10, 2005, www.cbsnews.com/stories/

created CSI Effect was repeated again and again, almost always in the context of blaming the television program for what prosecutors claimed was a *crisis* of misguided juror demands for scientific evidence.⁶

But is it true? These were all anecdotes, mainly from losers. No empirical studies existed to support or contradict claims that such a phenomenon was occurring. Along with two other professors from Eastern Michigan University, I have been testing this CSI Effect idea empirically for the last three years, using surveys of persons who were summoned to jury duty in felony courts in Michigan.⁷

2005/02/10/eveningnews/main673060.shtml; Max Houck, *CSI: The Reality*, SCI. AM., July 2006, available at http://www.mcdb.ucla.edu/Research/Goldberg/HC70A_W08/pdf/CSIReality.pdf; *Justice Under the Microscope*, N.Y. TIMES, May 16, 2005, at A20, available at <http://query.nytimes.com/gst/fullpage.html?res=9C03E1DE1F30F935A25756C0A9639C8B63&scp=1&sq=justice%20under%20the%20microscope&st=cse>; Stefan Lovgren, “‘CSI’ Effect” Is Mixed Blessing for Real Crime Labs, NAT’L GEOGRAPHIC NEWS, Sept. 23, 2004, http://news.nationalgeographic.com/news/2004/09/0923_040923_csi.html; Katherine Ramsland, *The CSI Effect*, CourtTV Crime Library, http://www.crimelibrary.com/criminal_mind/forensics/csi_berman/4.html (last visited Dec. 19, 2006); Paul Rincon, *CSI Shows Give ‘Unrealistic View,’* BBC NEWS, Feb. 21, 2005, <http://news.bbc.co.uk/2/hi/science/nature/4284335.stm>; Kit R. Roane, *The C.S.I. Effect*, U.S. NEWS & WORLD REP., Apr. 25, 2005, at 48, available at <http://www.usnews.com/usnews/culture/articles/050425/25csi.htm>; Ian Robertson, *Courts Feeling CSI Effect—Prosecutors Say Jurors Want More Forensic Evidence than Ever Before Because of Hit Television Dramas*, TORONTO SUN, Jan. 4, 2006, available at http://www.freeradical.ca/Courts_feeling_CSI_effect.htm; Richard Willing, “‘CSI Effect’ Has Juries Wanting More Evidence,” USA TODAY, Aug. 5, 2004, available at http://www.usatoday.com/news/nation/2004-08-05-csi-effect_x.htm; Richard Winton, *Blake Jurors ‘Stupid,’ D.A. Says*, L.A. TIMES, Mar. 24, 2005, available at <http://articles.latimes.com/2005/mar/24/local/me-cooley24>.

6. FOR ANOTHER PARTIAL LIST OF THE MANY MASS-MEDIA ARTICLES AND STORIES ABOUT THE CSI EFFECT, SEE SIMON A. COLE AND R. DIOSO-VILLA, *INVESTIGATING THE “CSI EFFECT” EFFECT: MEDIA AND LITIGATION CRISIS IN CRIMINAL LAW*, 61 Stan. L. Rev. 1335, 1353-54 (2009). THE MEDIA REPETITION OF THE IDEA OF A CSI EFFECT CONTINUES. SEE, E.G., JEFFREY TOOBIN, *THE CSI EFFECT: THE TRUTH ABOUT FORENSIC SCIENCE*, The New Yorker, MAY 7, 2007, [HTTP://WWW.NEWYORKER.COM/REPORTING/2007/05/07/070507FA_FACT_TOOBIN](http://WWW.NEWYORKER.COM/REPORTING/2007/05/07/070507FA_FACT_TOOBIN); ELENA BUCKNER, “‘CSI EFFECT’ AFFECTS U. S. JUSTICE SYSTEM,” APR. 8, 2009, [HTTP://WWW.KSTATECOLLEGIAN.COM/CSI-EFFECT-AFFECTS-U-S-JUSTICE-SYSTEM-1.1648361](http://WWW.KSTATECOLLEGIAN.COM/CSI-EFFECT-AFFECTS-U-S-JUSTICE-SYSTEM-1.1648361); *THE SCIENCE OF CRIME: CSI VS. REALITY*, NOV. 26, 2009, [HTTP://WWW.NEBRASKA.TV/GLOBAL/STORY.ASP?S=11574205](http://WWW.NEBRASKA.TV/GLOBAL/STORY.ASP?S=11574205).

7. Shelton et al., *Juror Expectations*, *supra* note 4; Donald E. Shelton, Young S. Kim & Gregg Barak, *An Indirect-Effects Model of Mediated Adjudication: The CSI Myth, the Tech Effect, and Metropolitan Jurors’ Expectations for Scientific*

These studies tried to answer three questions:

1. Do jurors expect prosecutors to present scientific evidence?
2. Do jurors demand scientific evidence as a condition for a guilty verdict?
3. Are juror expectations and demands for scientific evidence related to watching law-related television shows?

To answer these questions, we conducted two surveys of actual summoned jurors and gauged their attitudes toward scientific evidence.⁸ In Washtenaw County (Ann Arbor), Michigan, we surveyed 1,027 randomly summoned jurors during the period of June through August 2006.⁹ The initial survey results were published in the *Vanderbilt Journal of Entertainment and Technology Law*.¹⁰ A further analysis of the data from that study was subsequently published in the *Journal of Criminal Justice*.¹¹ Then, in Wayne County (Detroit), Michigan, we surveyed 1,219 jurors during the period of December 2008 through February 2009.¹² These results were published in the *Vanderbilt Journal of Entertainment and Technology Law*, as well.¹³ This Article reviews the results of those two juror studies and then reports the results of an analysis of the merged data from the 2,246 jurors in both counties.

II. JUROR SURVEYS

In each study, the survey was administered to summoned jurors prior to jury selection or any preliminary instruction.¹⁴ The jurors were assured that the survey was anonymous and that it was unrelated to their potential selection as a juror in any case.¹⁵

Evidence, 12 VAND. J. ENT. & TECH. L. 1 (2009) [hereinafter Shelton et al., *An Indirect-Effects Model*].

8. Shelton et al., *Juror Expectations*, *supra* note 4; Shelton et al., *An Indirect-Effects Model*, *supra* note 7.

9. Shelton et al., *Juror Expectations*, *supra* note 4, at 332.

10. See Shelton et al., *Juror Expectations*, *supra* note 4.

11. Young S. Kim, Gregg Barak & Donald E. Shelton, *Examining the “CSI-Effect” in the Cases of Circumstantial Evidence and Eyewitness Testimony: Multivariate and Path Analyses*, 37 J. CRIM. JUST. 452 (2009) [hereinafter Kim et al., *Examining the “CSI-Effect”*].

12. Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 1-2, 5.

13. Shelton et al., *An Indirect-Effects Model*, *supra* note 7.

14. *Id.* at 11.

15. *Id.* at 16-17.

First, jurors were asked about their television-watching habits.¹⁶ Specifically, the questions asked the following:

1. What current television programs do you watch?
2. How often do you watch them?
3. How accurately do you think those programs show how the criminal-justice system works?¹⁷

Next, the survey tried to assess what these people, who had been called for jury duty, expected to see in terms of evidence from the prosecutor.¹⁸ Jurors were asked to identify the types of evidence they expected would be presented by the prosecutor in seven different case scenarios: every criminal case, murder or attempted murder, physical assault of any kind, rape or other criminal sexual conduct, breaking and entering, any theft case, and any crime involving a gun.¹⁹ Jurors were asked what types of evidence they expected the prosecutor to present in each of those scenarios based on the following selections: eyewitness testimony from the alleged victim; eyewitness testimony from at least one other witness; circumstantial evidence; or scientific evidence of some kind, such as DNA evidence, fingerprint evidence, or ballistics or other firearms-laboratory evidence.²⁰

The survey then got to the heart of the matter to find out not only if jurors expected scientific evidence but also whether they would demand to see scientific evidence before they would find a defendant guilty. Jurors were given five choices on a Likert-type scale: "I would find the defendant guilty," "I would probably find the defendant guilty," "I am not sure what I would do," "I would probably find the defendant not guilty," or "I would find the defendant not guilty."²¹ So they would be in a similar legal position as instructed jurors, they were given the same instruction every seated juror would get in an actual case in Michigan as to the burden of proof, presumption of innocence, and reasonable doubt.²² Jurors were asked for their probable verdict using the same case scenarios and types of evidence used in the expectations section.²³ Included in the expectations section of the survey were thirteen evidentiary scenarios that tracked

16. *Id.* at 4.

17. *Id.* at 4, 9.

18. Shelton et al., *Juror Expectations*, *supra* note 4, at 341.

19. *Id.*

20. *Id.*

21. *Id.* at 342.

22. *Id.* at 341.

23. *Id.* at 342.

the same seven types of cases and charges.²⁴ For example, two such scenarios were:

1. “In any criminal case, the prosecutor presents circumstantial evidence but does not present any scientific evidence”; and
2. “In a case charging the defendant with murder or attempted murder, the prosecutor presents the testimony of an eyewitness and other witnesses but does not present any scientific evidence.”²⁵

A. Washtenaw County Results

The demographic characteristics of the Washtenaw County jurors included the following characteristics:

- 55% female;
- mean age 44.8 years;
- 82% Caucasian;
- 63% with annual household income greater than \$50,000;
- 76% college educated;
- roughly equal mix living in urban, suburban, and rural areas;
- politics: 42% moderate, 26% conservative, 29% liberal;
- prior crime victim: 19% violent; 46% property; and
- 61% considered neighborhood crime “not serious at all.”²⁶

There was a large concentration of *CSI* watchers, consistent with the Nielsen ratings.²⁷ Frequent *CSI* watchers also watched other law-related programs regularly.²⁸ The more frequently jurors watch a given program, the more accurate they perceive it to be.²⁹ Demographically, *CSI* watchers were more likely to be female political moderates with less education.³⁰

24. *Id.*

25. *Id.*

26. *Id.* at 338.

27. *Id.* at 343-46.

28. *Id.* at 346.

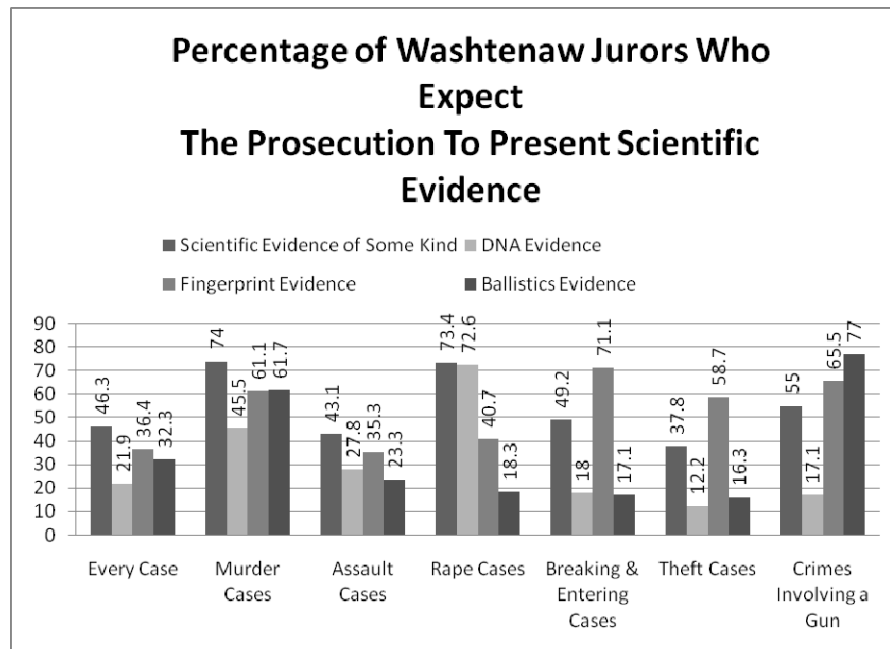
29. *Id.*

30. *Id.* at 348-49.

Do these jurors really expect the prosecution to present more scientific evidence? The Washtenaw County survey indicated that they do.³¹ Jurors' expectations that the prosecution would present scientific evidence were high:

- 46.3% of jurors expect to see some kind of scientific evidence in every criminal case;
- 21.9% of jurors expect to see DNA evidence in every criminal case; and
- 36.4% of jurors expect to see fingerprint evidence in every criminal case.³²

Figure 1³³:



The study showed that people who watched *CSI* frequently had higher expectations for all types of evidence than people who did not watch *CSI*.³⁴ But the survey also suggested that the expectations of *CSI* watchers as to scientific evidence were not just blanket expectations for any kind of scientific evidence.³⁵ Rather, the expectations for particular kinds of

31. *Id.* at 349-53.

32. *Id.* at 349.

33. *Id.* at 349-53.

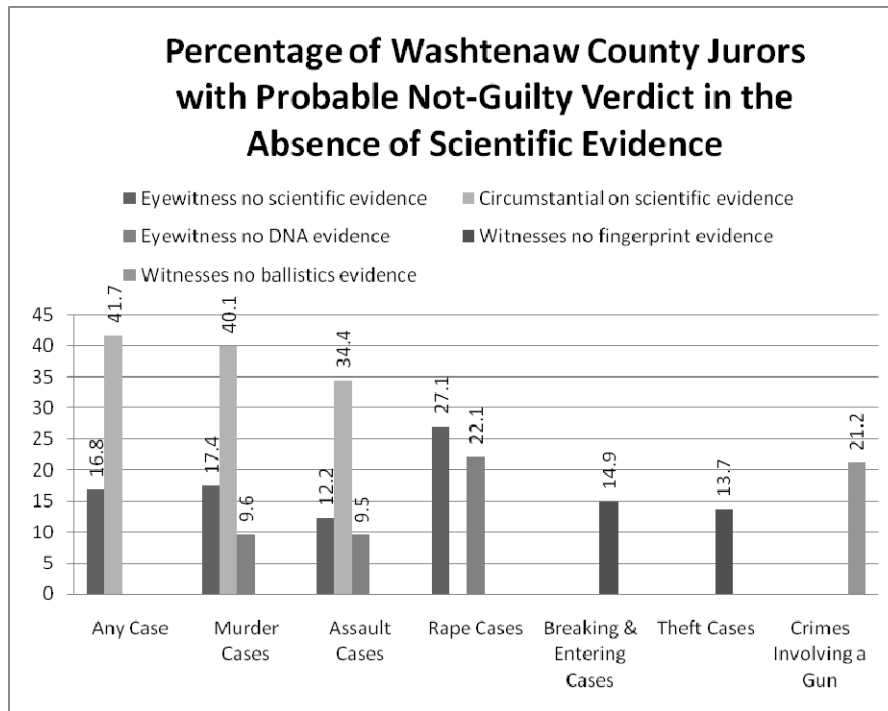
34. *Id.* at 353.

35. *Id.*

scientific evidence seem to be rational and vary with particular types of cases.³⁶

Will jurors acquit defendants if their expectations for scientific evidence are not met? Perhaps. The Washtenaw County survey results indicated that in most of the scenarios the jurors’ increased expectations for scientific evidence did not translate into demands for such evidence as a prerequisite for a finding of guilt or innocence.³⁷ There were two significant exceptions: In rape cases and in other cases where the prosecutor depends on circumstantial evidence, juror demands for scientific evidence before they would find a defendant guilty are particularly high.³⁸ However, where there was eyewitness testimony, the lack of scientific evidence did not determine the outcome.³⁹

Figure 2⁴⁰:



So is this all because of *CSI*? All that television watching must be the cause of these demands for scientific evidence, right? In fact, our

36. *Id.*

37. *Id.* at 354-57.

38. *Id.* at 359.

39. *Id.*

40. *Id.* at 359-60.

Washtenaw County survey did not find that watching *CSI* had a significant impact on whether jurors were likely to acquit a defendant without scientific evidence.⁴¹ In only four of the thirteen scenarios, each depicting different crimes and evidence, did the Washtenaw County study data show significant differences between *CSI* watchers and non-*CSI* watchers.⁴² Therefore, the data generally disproved the existence of the CSI Effect as portrayed by prosecutors.⁴³

The Washtenaw County study data, in this regard, was subjected to more sophisticated multivariate and path analyses, and the results were reported in an article in the *Journal of Criminal Justice*.⁴⁴ The results showed that watching *CSI* dramas had no independent impact on jurors' verdicts.⁴⁵ The multivariate analysis confirmed the earlier conclusion that exposure to *CSI* dramas had no significant effect in cases where there was circumstantial evidence only or in cases where there was eyewitness testimony.⁴⁶ The path analyses indicated that while exposure to *CSI* dramas had no direct effect on convictions, it did have an indirect effect of raising expectations for scientific evidence, which in turn, affected jurors' reluctance to convict defendants based on circumstantial evidence alone.⁴⁷ On the other hand, path analyses revealed that exposure to *CSI* dramas produced no significant, indirect effect on the jurors' willingness to convict on eyewitness testimony alone.⁴⁸

The final conclusions from the results of the Washtenaw County survey included:

- generally, jurors have high expectations that they will be presented with scientific evidence;
- in all rape cases and other types of cases that rely on circumstantial evidence, jurors have a high demand for scientific evidence as a condition of guilt; and

41. *Id.* at 362.

42. Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 22.

43. *Id.*

44. Kim et al., *Examining the "CSI-Effect," supra* note 11.

45. *Id.* at 456.

46. *Id.* at 458.

47. *Id.* This finding contradicted the assertion that watching *CSI* does not impact jurors' evaluation of circumstantial evidence. See Saby Ghoshray, *Untangling the CSI Effect in Criminal Jurisprudence: Circumstantial Evidence, Reasonable Doubt, and Jury Manipulation*, 41 NEW ENG. L. REV. 533 (2007).

48. Kim et al., *Examining the "CSI-Effect," supra* note 11, at 458.

- jurors who watch CSI, and those who do not, showed no significant difference in their demand for scientific evidence as a condition of guilt.⁴⁹

In other words, there is no evidence of a CSI Effect, as prosecutors depict it, which results in acquittals.

Well, if the change in juror expectations does not result from watching *CSI*, where does it result from? In the 2006 article based on the Washtenaw County study, we suggested that talking about *CSI* and other television shows is just too simplistic and that a broader *tech effect* of changes in our culture may more likely account for increased expectations and demands of jurors for scientific evidence.⁵⁰ As we concluded and suggested after the Washtenaw County study:

As this study has shown, jurors are not influenced particularly by *CSI* or any of the many other television shows of that genre. It is clear, however, that jurors do significantly expect that prosecutors will use the advantages of modern science and technology to help meet their burden of proving guilt beyond a reasonable doubt. This article suggests that the origins of those expectations lie in the broader permeation of the changes in our popular culture brought about by the confluence of rapid advances in science and information technology and the increased use of crime stories as a vehicle to dramatize those advances.

It is too narrow and simplistic to associate that cultural change with the small slice of cultural influences represented by television shows. For example, it may well be that crime stories in the news media focusing on DNA and other new crime investigation technologies have played an even larger role in forging these new juror expectations and demands. Television crime dramas and documentaries are simply one of the many inputs that jurors experience from the variety of information that is presented to them. It is one small part of the process of agenda-setting that takes place in potential jurors before they are summoned to jury duty.⁵¹

49. Shelton et al., *Juror Expectations*, *supra* note 4, at 357-62.

50. *Id.* at 362.

51. *Id.* at 364.

Communications technology, for example, has gone from something seen in comic books and science fiction to common-place electronic gadgets. Jurors have become very technologically sophisticated.⁵² They use computers and other consumer-level electronics on a regular basis, leading to an appreciation of the power of modern information technology.⁵³ In turn, this appreciation develops into an expectation that the criminal-justice system will utilize that same power.⁵⁴

B. Wayne County Results

The Washtenaw County study had some normal demographic limitations, especially with regard to its academic and suburban setting, high juror education level, and high juror income level.⁵⁵ Further, the suggestion of a *tech effect* was based on general cultural observations and not on specific data in the Washtenaw County study. To address these issues and further explore the CSI Effect questions, a similar but revised survey of 1,219 jurors in Wayne County was conducted during the winter of 2008-2009.⁵⁶ Wayne County includes the city of Detroit and the surrounding communities and is a distinctly urban jurisdiction.⁵⁷ The demographic characteristics of the Wayne County jurors included the following characteristics:

- 56% female;
- mean age 48.6 years;
- 60.1% Caucasian;
- 56% with annual household income greater than \$50,000;
- 40.1% college educated;
- 93% urban or suburban residents;
- politics: 46.6% moderate, 21.7% conservative, 17.0% liberal;
- prior crime victim: 27.5% violent, 57.1% property; and

52. See RAY SURETTE, MEDIA, CRIME, AND CRIMINAL JUSTICE: IMAGES, REALITIES, AND POLICIES 6-15 (3d ed. 2007); see also Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 25.

53. Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 25.

54. *Id.*

55. Shelton et al., *Juror Expectations*, *supra* note 4, at 337-40.

56. Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 4, 11-14.

57. *Id.* at 5 (citing U.S. Census Bureau, 2008 State & County Quick Facts: Wayne County, Michigan, <http://quickfacts.census.gov/qfd/states/26/26163.html> (last visited Sept. 27, 2010)).

- 10.9% considered neighborhood crime a “serious” problem.⁵⁸

The television-program list was modified in the Wayne County survey to reflect changes in programming but included the same *CSI* programs and spin-offs as the prior study.⁵⁹ Comparison with the contemporaneous Nielsen ratings indicated that Wayne County jurors also watched *CSI* dramas consistent with the national and Washtenaw County data.⁶⁰

Jurors’ expectations that the prosecution would present scientific evidence were high in the Wayne County study, exceeding the level of expectations that the data demonstrated in the Washtenaw County study:

- 58.3% of jurors expect to see some kind of scientific evidence in *every* criminal case;
- 42.1% of jurors expect to see DNA evidence in *every* criminal case; and
- 56.5% of jurors expect to see fingerprint evidence in *every* criminal case.⁶¹

Jurors’ expectations for scientific evidence varied depending on the type of crime involved but, overall, were still very high.⁶² More jurors expected to see DNA evidence in more serious, violent offenses, such as murder or attempted murder (74.6%) and rape (88.9%), than other types of crimes; and more wanted to see fingerprint evidence in breaking and entering cases (83.8%), any theft case (83.8%), and in crimes involving a gun (70.2%).⁶³

58. *Id.* at 13-14.

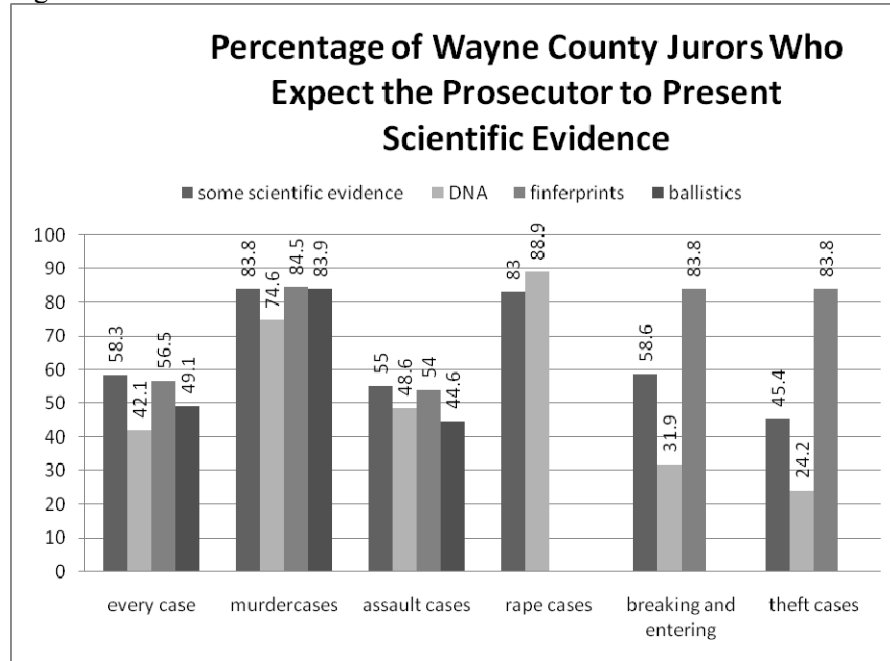
59. Shelton et al., *Juror Expectations*, *supra* note 4, at 343-45; Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 15 n.52.

60. For example, for the week ending February 15, 2009, the Nielsen ratings indicated that the top-twenty, most-watched programs included (#4) *NCIS*, (#5) *CSI*, (#11) *CSI: Miami*, (#15) *Criminal Minds*, and (#16) *CSI: NY*. See TV IV, Nielsen Ratings, 2009, http://tviv.org/Nielson_Ratings/Historic/Network_Television_by_Week/2009; see also Shelton et al., *Juror Expectations*, *supra* note 4, at 343-45 (showing 2006 Washtenaw County jurors’ *CSI*-related viewing habits).

61. Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 17.

62. *Id.*

63. *Id.* at 17-20.

Figure 3⁶⁴:

The expectations of metropolitan jurors seemed to be less affected by watching *CSI* dramas than the suburban jurors.⁶⁵ Watching *CSI* made a difference in only thirteen of the forty-nine categories in the Wayne County study compared to twenty-one of the forty-nine categories of evidence in the Washtenaw County study.⁶⁶

On the question of whether jurors will demand scientific evidence as a prerequisite for conviction, the results were similar to those recorded in Washtenaw County.⁶⁷ In most cases, the jurors still give the most weight to the testimony of fact witnesses.⁶⁸ For example, 28.7% would find the defendant guilty in every criminal case if they had eyewitness testimony without any scientific evidence compared to 18.8% who said their probable verdict would be “not guilty.”⁶⁹ On the contrary, if the prosecution relies on circumstantial evidence without any scientific evidence, 41% indicated a probable acquittal, and only 9.2% indicated a probable conviction.⁷⁰

64. *Id.* at 17-18.

65. *Id.* at 18.

66. *Id.*

67. *Id.* at 20-21.

68. *Id.* at 21.

69. *Id.*

70. *Id.*

As in Washtenaw County, the willingness to rely on factual witnesses did not extend to rape cases, where the jurors appeared to demand scientific evidence as a condition of conviction.⁷¹ If the prosecution relied only on the alleged rape victim or other witnesses, without any scientific evidence, more jurors would find the defendant not guilty (27.1%) than guilty (21.1%).⁷² Specifically, jurors want DNA evidence in rape cases. When the prosecutor does not present DNA evidence in a rape case, 24.8% of the Wayne County jurors indicated a likely acquittal as opposed to 18.1% indicating a probable conviction.⁷³

A similar pattern prevailed in other types of cases as well: jurors trusted factual witnesses but demanded scientific evidence when the only other evidence was circumstantial.⁷⁴ Even in murder cases where factual witnesses provided testimony, if there was no scientific evidence, 36.8% of the Wayne County jurors indicated a probable conviction, and only 18.2% indicated a probable acquittal.⁷⁵ Jurors were somewhat less likely to demand DNA evidence when there was eyewitness testimony, with 38.4% indicating a probable conviction without DNA as opposed to 12.2% indicating a probable acquittal.⁷⁶ On the other hand, when the prosecution relies on circumstantial evidence in a murder case and has no scientific evidence, those ratios reversed, and 36.1% of the jurors indicated a probable acquittal, while 12.2% indicated a probable conviction.⁷⁷

On the crucial question of whether watching *CSI* dramas influenced juror demands for scientific evidence as a prerequisite for conviction, the results in the urban Wayne County study were even more pronounced.⁷⁸ “The Washtenaw County study data showed significant differences between *CSI* watchers and non-*CSI* watchers in only four of the thirteen different crime scenarios.”⁷⁹ In those thirteen scenarios, however, there was *no* significant difference in the inclination or reluctance of Wayne County jurors to convict a defendant based on whether they watched *CSI*-type programs.⁸⁰ The Wayne County study thus reinforced the earlier Washtenaw County finding that there was no CSI Effect of the type claimed anecdotally by prosecutors and other law-enforcement personnel.

71. *Id.*

72. *Id.*

73. *Id.*

74. *Id.*

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.* at 22.

79. *Id.*

80. *Id.*

To test the earlier suggestion of a *tech effect*, the survey of Wayne County jurors included questions designed to determine the level of their usage of computers and other technological equipment including various types of cellular telephones, cable- or satellite-television access, and GPS navigational devices.⁸¹ The data collected from the Wayne County jurors was consistent with survey data from the general population regarding access and usage of the Internet.⁸² Nearly 87% of the Wayne County jurors that were surveyed reported that they had a computer in their home, and more than 40% of them could also gain access to the Internet by using their cell phones.⁸³ More than 92% of the jurors surveyed had cell phones,⁸⁴ and 85% accessed television through cable or satellite.⁸⁵ Those findings were correlated with the expectations of the jurors for scientific evidence.⁸⁶ The Wayne County study results indicated that the more sophisticated jurors are with their own use of technology, the more they expect the prosecution to use scientific evidence to present its case.⁸⁷

The Wayne County study also added questions designed to determine the level of jurors' interest in criminal-justice matters and the sources of their information about that system.⁸⁸ The popularity of criminal-justice programs and news among the jurors surveyed clearly demonstrated a curiosity about criminal-justice issues.⁸⁹ Nearly 70% of Wayne County jurors indicated they were either "very" or "somewhat" interested in getting news about crime and criminal trials.⁹⁰ When asked about the sources of their information, the study data showed that print media is not the primary source for news about crime and that television is the clearly dominant medium for criminal-justice information.⁹¹ Less than half of the jurors in the Wayne County study used newspapers as a primary source of criminal-justice information, while 34% use the Internet.⁹²

Although the jurors primarily rely on television for criminal-justice information, access to a multitude of sources through cable television has dramatically changed the availability and type of information, including criminal-justice information. The Wayne County jurors reflected that

81. *Id.* at 23-25.

82. *Id.* at 27.

83. *Id.*

84. *Id.* at 28.

85. *Id.* at 26.

86. *Id.* at 23-25.

87. *Id.* at 37.

88. *Id.* at 29-30.

89. *Id.*

90. *Id.* at 29.

91. *Id.* at 29-30.

92. *Id.* at 30.

national phenomenon with over 85% indicating that they accessed television through cable or satellite.⁹³

C. The Combined Results

The corresponding data obtained in the Washtenaw and Wayne County studies were merged for further analysis and those results are reported here. Although there is a somewhat larger sample from Wayne County than Washtenaw County (1,219 versus 1,047), the combined results do reflect jurors randomly summoned in two jurisdictions in Southeast Michigan. After merging the data, statistical recoding and correlation analyses were conducted in the same manner as originally done in the Washtenaw County study.⁹⁴ The merged demographic characteristics are reflected in the following table:

Table 2: Merged Demographic Variables of Washtenaw and Wayne County Studies⁹⁵

Variable	Wayne County Frequency	Washtenaw County Frequency	Combined Frequency	Combined Percent
Age (Mean)				
Less than 30	150	158	308	13.7
30 – 39	205	190	395	17.6
40 – 49	295	249	544	24.2
50 – 59	330	251	581	25.9
60+	179	138	317	14.1
Unknown	60	41	101	4.5
Gender				
Female	680	564	1244	55.4
Male	495	446	941	41.9
Unknown	44	17	61	2.7
Education				

93. *Id.* at 30-31.

94. See Shelton et al., *Juror Expectations*, *supra* note 4, at 346-50 (describing how the different tests used for statistical recoding and correlation analyses were conducted in Washtenaw County).

95. Compare *id.* at 338-39 tbl.1 (stating the demographic variables for the 2006 Washtenaw County survey), with Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 13-14 tbl.1 (stating the demographic variables for the 2009 Wayne County survey).

Post-graduate degree	173	329	502	22.4
College ⁹⁶	727	459	1186	52.8
High school	235	195	430	19.1
Less than high school	27	14	41	1.8
Unknown	57	30	87	3.9

**Household
Income**

Over \$100,000	242	296	538	24.0
\$50,000 – \$100,000	440	352	792	35.3
\$30,000 – \$49,999	269	201	470	20.9
Less than \$30,000	188	129	317	14.1
Unknown	80	49	129	5.7

Race/Ethnicity

Caucasian	733	844	1577	70.2
Hispanic	25	9	34	1.5
African American	296	58	354	15.8
Asian	28	26	54	2.4
Other	44	37	81	3.6
Unknown	93	53	146	6.5

Urbanicity

City	454	339	793	35.3
Suburban	676	395	1071	47.7
Rural	36	270	306	13.6
Unknown	53	23	76	3.4

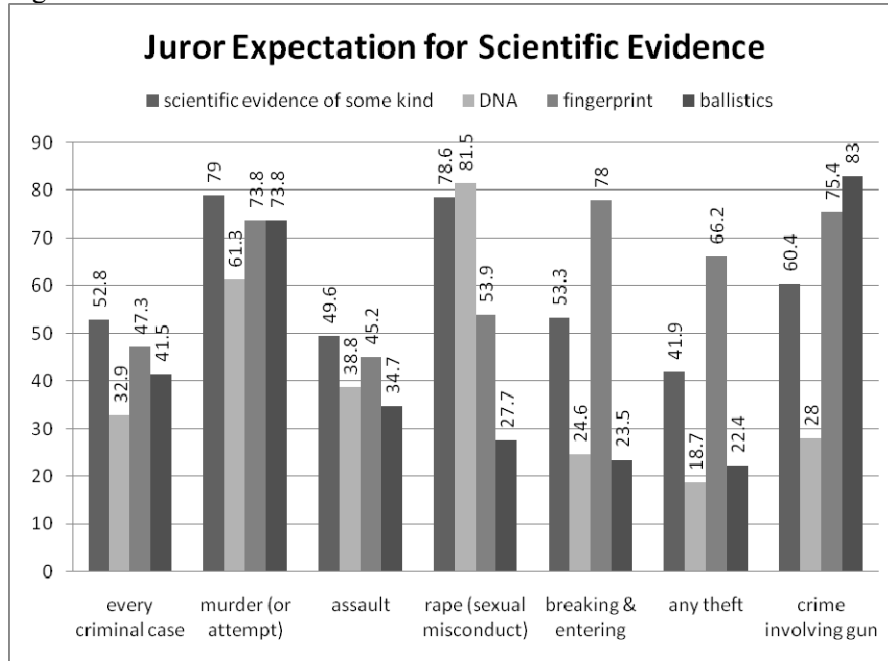
**Neighborhood
Crime**

Very serious	84	8	92	4.1
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96. The Washtenaw County survey only listed “college” as an option, while the Wayne County survey split the category into “some college” and “college graduate.” The two Wayne County variables are combined for purposes of this analysis. See Shelton et al., *Juror Expectations*, *supra* note 4, at 338; Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 13.

Serious	133	57	190	8.4
Somewhat serious	449	310	759	33.8
Not serious at all	499	626	1125	50.1
Unknown	54	26	80	3.6
Violent Victimization				
Yes	335	196	531	23.6
No	840	815	1655	73.7
Unknown	44	16	60	2.7
Property Victimization				
Yes	696	471	1167	52.0
No	480	536	1016	45.2
Unknown	43	20	63	2.8
Political View				
Very conservative	67	46	113	5.0
Conservative	265	218	483	21.5
Moderate	568	428	996	44.4
Liberal	207	225	432	19.2
Very liberal	44	78	122	5.4
Unknown	68	32	100	4.5
Total	1219	1027	2246	100

The combined data as to juror expectations for scientific evidence is reflected in the following chart:

Figure 4⁹⁷:

As to juror demands for scientific evidence as a prerequisite for conviction, the combined data reflected the conclusion that jurors still repose considerable weight in the testimony of fact witnesses. Jurors are more likely to find the defendant guilty than not guilty *even without scientific evidence* if there is testimony from the victim or other witnesses, except in rape cases. Where the jury hears the testimony of the victim or other witnesses but gets no scientific evidence, more would find the defendant guilty than not guilty in every kind of case, except a rape case. The combined data is reflected in the following table:

97. Compare Shelton et al., *Juror Expectations*, *supra* note 4, at 350-53 tbl.5 (stating the evidentiary expectations of jurors for the 2006 Washtenaw County survey), with Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 19-20 tbl.2 (stating the evidentiary expectations of jurors for the 2009 Wayne County survey).

Table 3: Comparison of Likely Verdict Based on Scientific Evidence⁹⁸
Eyewitness testimony—no scientific evidence

Type of Case	Likely Guilty	Likely Not Guilty
Any Criminal Case	28.7%	18.8%
Murder Case	36.8%	18.2%
Assault Case	41.5%	11.9%
Rape Case	21.1%	27.1%

On the other hand, if the prosecutor is relying on circumstantial evidence, jurors will demand at least some kind of scientific evidence before they will return a guilty verdict. The merged data, reflected in the table that follows, shows that 41% of surveyed jurors would not convict a defendant in any criminal case based on circumstantial evidence without some scientific evidence of guilt. Over one-third would reach a similar result even in a murder case.

Table 4: Comparison of Likely Verdict Based on Circumstantial Evidence⁹⁹

Circumstantial evidence

Type of case	Likely Guilty	Likely Not Guilty
Any criminal case	9.2%	41%
Murder case	12.2%	36.1%

However, analysis of the combined data reflected the lack of relationship of these expectations and demands with watching *CSI* dramas on television. As in the Washtenaw County study, the data was analyzed

98. See Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 20-21; see also Shelton et al., *Juror Expectations*, *supra* note 4, at 354 (stating the likelihood of conviction when different types of evidence are used).

99. See Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 21; see also Shelton et al., *Juror Expectations*, *supra* note 4, at 354 (stating the likelihood of conviction when different types of evidence are used).

between *CSI* watchers (those who watch such programs at least on occasion) and non-*CSI* watchers (those who never or almost never watch such programs).¹⁰⁰ The demands for scientific evidence as a condition of a guilty verdict were measured in thirteen scenarios with values ranging from -2 for “would find not guilty” to +2 for “would find guilty.”¹⁰¹ Using a regression analysis, the results of the combined data showed no significant relationship in any of the thirteen scenarios between the likelihood of a not-guilty verdict without scientific evidence and whether jurors watch *CSI*-type programs.¹⁰² No correlations were significant even at the $p < .10$ level,¹⁰³ as shown in the following table:

Table 5: Combined Statistical Variations Between *CSI* and non-*CSI* Watchers¹⁰⁴

Type of Case	t-value	Significance of Correlation
Every Criminal Case		
Testimony without scientific evidence	-.800	.424
Circumstantial evidence without scientific evidence	-.416	.677
Murder (or Attempt)		
Testimony without scientific evidence	-.351	.726
Circumstantial evidence without scientific evidence	-1.610	.108
Testimony without DNA evidence	-.598	.550
Physical Assault Case		
Testimony without scientific evidence	.660	.510
Circumstantial evidence without scientific evidence	1.256	.209
Testimony without DNA evidence	-.766	.444

100. Shelton et al., *Juror Expectations*, *supra* note 4, at 347.

101. *Id.* at 354.

102. *See id.* at 354-57; Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 20-23.

103. A *significant correlation* means that the difference between two groups, here those who watch *CSI* and those who do not, is large enough so that the probability that such a difference is produced by chance is very low, e.g., $p < .05$ means that the probability is less than 5%, and $p < .10$ means that the probability is less than 10%. *See* LES SEPLAKI, ATTORNEY'S DICTIONARY AND HANDBOOK OF ECONOMICS AND STATISTICS 204 (1991).

104. *See* Shelton et al., *Juror Expectations*, *supra* note 4, at 354-57; Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 20-23.

Rape (Sexual Assault)

Testimony without scientific evidence	-.379	.705
Testimony without DNA evidence	.709	.478

Breaking and Entering

Testimony without fingerprint evidence	-.041	.967
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Any Theft Case

Testimony without fingerprint evidence	-.604	.546
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Any Crime Involving a Gun

Testimony without ballistics evidence	1.565	.118
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Based on these two surveys in geographically similar but demographically disparate populations, some common conclusions can be drawn. First, generally, juror expectations that they will be presented with scientific evidence are high. Second, jurors’ demands for scientific evidence as a condition of guilt are high in all rape cases and in all other types of cases that rely on circumstantial evidence. Third, there is *no* significant difference in the demand for scientific evidence as a condition of guilt between those jurors who watch *CSI* and those who do not. In other words, there is no CSI Effect that results in acquittals.

III. THE INFLUENCE OF CSI PERCEPTIONS ON REALITY

The 2006 Washtenaw County study and the 2009 Wayne County study clearly demonstrate that jurors very much expect the introduction of scientific evidence in criminal trials. These high expectations result in large part from what we have described as the *tech effect* of public awareness and use of the powers of modern technology, coupled with public awareness of the availability of that technology as an important part of the criminal adjudication process. That public awareness comes from a variety of sources—especially from mass media, including television, with its many expanded outlets. *CSI*-type programs are a part of that media milieu but clearly do not play the significant role in forging jurors’ expectations that many attribute to them. The combined study data also demonstrates that jurors’ expectations for scientific evidence do not necessarily translate to corresponding jury verdicts. The strong prosecutor depiction of the CSI Effect, which asserts that jurors who watch *CSI* will wrongfully acquit defendants, does not have an empirical basis.¹⁰⁵ Like the unicorn and the mermaid, the CSI Effect is a myth.

Notwithstanding these results, prosecutors, judges, defense lawyers, and other law-enforcement actors firmly believe in the *strong prosecutor*

105. Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 40.

version of the *CSI* myth, as they and the news media have manufactured it.¹⁰⁶ They still believe that forensic-based television programs have influenced jury decisions.¹⁰⁷ Even scholarly commentators may leap from the obvious and documented observation—that television programs about crime have a generalized impact on jurors—to an erroneous conclusion that the impact will specifically be the wrongful acquittal of a criminal defendant.¹⁰⁸ Anecdotes, even by scholars, continue to be cited as the major support for the stubborn insistence that the *CSI* Effect exists.¹⁰⁹ More importantly, however, these perceptions are self-fulfilling in the sense that the beliefs affect the behavior of attorneys and other criminal-justice-system actors and, thereby, become a part of the reality of a trial for jurors.¹¹⁰

Based on these perceptions of jurors' alleged behavior, or by actually watching these shows for themselves, prosecutors and defense attorneys, if not judges, have altered their behavior.¹¹¹ Referring to a study by N.J. Schweitzer and Michael J. Saks,¹¹² the National Academy of Sciences's report to Congress on the state of forensic science in the United States stated:

Schweitzer and Saks found that the *CSI* Effect is changing the manner in which forensic evidence is presented in court, with some prosecutors believing they must make their presentation as visually interesting and appealing as such presentations appear to be on television. Some are concerned that the conclusiveness and finality of the manner in which forensic evidence is presented on television results in jurors giving more or less credence to the forensic experts and their testimony than they should, raising expectations, and possibly resulting in a

106. *Id.* at 6; see also Cole & Dioso-Villa, *supra* note 6.

107. See Tamara F. Lawson, *Before the Verdict and Beyond the Verdict: The CSI Infection Within Modern Criminal Jury Trials*, 41 LOY. U. CHI. L.J. 119, 121 (2009) ("The entire criminal litigation process is potentially influenced by the fear that the *CSI* Effect has created a population of 'CSI Infected Jurors' . . .").

108. *Id.* at 125 & n.24.

109. *Id.* at 136-40.

110. See *id.* at 121-27, 165-73; Diane Boudreau, *CSI Effect: Not Guilty!*, ARIZ. ST. UNIV. RESEARCH STORIES, Mar. 24, 2008, http://researchstories.asu.edu/2008/03/csi_effect_gets_a_not_guilty_v.html.

111. See Lawson, *supra* note 107, at 142-68.

112. N.J. Schweitzer & Michael J. Saks, *The CSI Effect: Popular Fiction About Forensic Science Affects the Public's Expectations About Real Forensic Science*, 47 JURIMETRICS J. 357 (2007).

miscarriage of justice. The true effects of the popularization of forensic science disciplines will not be fully understood for some time, but it is apparent that it has increased pressure and attention on the forensic science community in the use and interpretation of evidence in the courtroom.¹¹³

The perception of a CSI Effect influences specific conduct of trial participants with regard to the trial jury.¹¹⁴ It can affect both prosecution and defense voir dire or even the voir dire conducted by the judge.¹¹⁵ It can also become an issue in voir dire when it is used by the prosecution to respond to a *Batson*¹¹⁶ challenge of racial bias in the exercise of peremptory challenges.¹¹⁷ Opening and closing statements referring to *CSI*

113. NAT’L RESEARCH COUNCIL OF THE NAT’L ACADS., STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 48-49 (2009) (footnote omitted).

114. See generally Donald E. Shelton, *Twenty-First Century Forensic Science Challenges for Trial Judges in Criminal Cases: Where the “Polybutadiene” Meets the “Bitumen,”* 18 WIDENER L.J. 309, 378-90 (2009) [hereinafter Shelton, *Twenty-First Century*] (discussing the approach that attorneys have begun taking to address the CSI Effect at trial); Lawson, *supra* note 107, at 141-60 (outlining the various stages of the trial in which judges and attorneys may address the CSI Effect).

115. See, e.g., *United States v. Harrington*, 204 F. App’x 784, 788-89 (11th Cir. 2006) (upholding voir dire by the judge); *People v. Marquez*, No. B184697, 2006 WL 2665509, at *4 n.5 (Cal. Ct. App. Sept. 18, 2006) (approving prosecutor’s voir dire, which asserted, “All of you have watched one kind of show, whether it’s ‘Law and Order,’ ‘CSI,’ any of those shows. How many of you do that? . . . How many of you have a certain expectation that both Mr. Mack and I, and the judge will perform in a similar manner as in those shows? . . . Those are shows and that’s not real life, and this is real life.”); *State v. Latham*, No. 92521, 2005 WL 1619235, at *2 (Kan. Ct. App. Nov. 1, 2005) (holding that there was no prejudice in prosecutor’s statements during voir dire that “CSI is a bunch of you know what. . . . It doesn’t happen that way”); *People v. Smith*, No. 271036, 2007 WL 4248571, at *5 (Mich. Ct. App. Dec. 4, 2007) (holding that the prosecutor’s remarks during voir dire that “real life is not akin to CSI television shows and that he was not trying to ‘pull the wool’ over the juror’s eyes . . . the prosecutor was merely attempting to ensure that the jury not hold the prosecution to a higher burden of proof than was required”); *Goff v. State*, 14 So. 3d 625 (Miss. 2009), *cert. denied sub nom.*, *Goff v. Mississippi*, 130 S. Ct. 1515 (2010); *State v. Taylor*, No. 06CA009000, 2008 WL 834437, at *3 (Ohio Ct. App. Mar. 31, 2008) (quoting a prosecutor’s statement in voir dire that “a lot of those TV shows are fictional, or the science is no good”).

116. *Batson v. Kentucky*, 476 U.S. 79 (1986).

117. See, e.g., *United States v. Hendrix*, 509 F.3d 362, 369-72 (7th Cir. 2007); *Wells v. Ricks*, No. 07 Civ. 6982, 2008 WL 506294, at *28-30, *33 (S.D.N.Y. Feb.

and its “effect,” especially by the prosecution, have proven to be a source of judicial concern.¹¹⁸ Witnesses have been questioned about watching *CSI* and similar programs.¹¹⁹ It has led prosecutors to introduce *negative evidence* about multiple scientific tests that were negative, duplicative, or not performed.¹²⁰ Prosecutors have asked the judge to instruct jurors that

26, 2008); *People v. Reyes*, No. E040509, 2007 WL 4427856, at *9-11 (Cal. Ct. App. Dec. 19, 2007); *People v. Henderson*, No. A102395, 2004 WL 2526448, at *4-5 (Cal. Ct. App. Nov. 9, 2004); *State v. Carson*, No. C-040042, 2005 WL 497290 (Ohio Ct. App. Mar. 4, 2005) *rev'd on other grounds*, 847 N.E. 2d 1174 (Ohio 2006).

118. In *Boatswain v. State*, No. 408, 2004, 2005 WL 1000565, at *1 (Del. Apr. 27, 2005), a prosecutor made the following argument:

In today's day and age, unfortunately, the police and the State isn't [sic] put to the same test that they wrote 200 years ago in the Constitution [in] which they said the proof must be beyond a reasonable doubt. Unfortunately, the test, of course, of criminal defendants now is, can they meet the TV expectation that they hope folks like you want. Can they meet *CSI*?

This argument was found by the Delaware Supreme Court to be clear error:

[S]tatements that trivialize the actual constitutional standard by comparing it to a purportedly unnecessarily burdensome “television” standard may leave jurors with the impression that the State's burden of proof is pinned to either an abundance or dearth of a specific type of evidence. . . . By doing so, he disparaged the reasonable doubt standard by claiming that the State is held to an indeterminate, but implicitly lower, burden of proof.

Id. at *3; *see also* *United States v. Duronio*, No. 02-0933 (JAG), 2006 WL 3591259, at *3 (D.N.J. Dec. 11, 2006); *People v. Compean*, No. A111367, 2007 WL 1567603, at *8 (Cal. Ct. App. May 31, 2007); *Morgan v. State*, 922 A.2d 395, 401-03 (Del. 2007); *Mathis v. State*, No. 25, 2006 WL 2434741, at *4 (Del. Aug. 21, 2006); *State v. Ash*, No. A07-0761, 2008 WL 2965555, at *7 (Minn. Ct. App. Oct. 21, 2008); *State v. Hill*, No. A05-570, 2006 WL 1320075, at *3-5 (Minn. Ct. App. May 16, 2006) (finding harmless error); *State v. Strong*, 142 S.W.3d 702, 724-25 (Mo. 2004) (en banc); *State v. Goetz*, 191 P.3d 489, 517 (Mont. 2008); *State v. Pittman*, No. 04-03-00373, 2007 WL 4482159, at *3, *7 (N.J. Super. Ct. App. Div. Dec. 26, 2007); *State v. Minor*, No. C-060043, 2007 WL 196504, at *3 (Ohio Ct. App. Jan. 26, 2007).

119. *See, e.g., State v. McKinney*, No. 2007-T-0004, 2008 WL 2582860, at *25 (Ohio Ct. App. June 27, 2008); *see also* *People v. Brooks*, No. F051251, 2008 WL 2897093, at *15 (Cal. Ct. App. July 29, 2008) (explaining an attorney's position that the search conducted was inspired by *CSI*); *Cox v. State*, 966 So.2d 337, 353 (Fla. 2007) (explaining an attorney's reasoning that, based on *CSI*, the conclusion of the expert witness was unfounded).

120. *See, e.g., People v. Robles*, No. D048357, 2007 WL 1140380, at *3 (Cal. Ct. App. Apr. 18, 2007); *State v. Cooke*, 914 A.2d 1078, 1082-83 (Del. Super. Ct.

the production of scientific evidence is not necessarily part of the government’s burden of proof, and judges have indeed fashioned such instructions, even *sua sponte*.¹²¹ Thus, the myth of the CSI Effect turns into a reality for the jurors as it is reflected in the reactive conduct of the various trial participants, including the attorneys and the judge.

IV. THE INFLUENCE OF MASS-MEDIA MESSAGES ABOUT CRIME

The influence of the media generally on prospective criminal-case jurors is well documented and is a much larger influence than the thin slice of forensic-science television shows.¹²² Portrayals of crime and criminal

2007); *see also* United States v. Fields, 483 F.3d 313, 355 (5th Cir. 2007) (allowing multiple “shocking and gruesome” body photos as probative in this “age of the supposed CSI effect” based on the defense’s position that there was no reliable DNA evidence and little crime-scene evidence regarding the body itself).

121. United States v. Saldariagga, 204 F.3d 50, 51-53 (2d Cir. 2000) (upholding a *sua sponte* jury instruction regarding a defense claim that the police had not tested certain evidence for fingerprints, holding that the “jury correctly was instructed that the government has no duty to employ in the course of a single investigation all of the many weapons at its disposal, and that the failure to utilize some particular technique or techniques does not tend to show that a defendant is not guilty of the crime with which he has been charged”); *see, e.g.*, United States v. Mason, 954 F.2d 219 (4th Cir. 1992); *see also* Evans v. State, 922 A.2d 620, 633 (Md. Ct. Spec. App. 2007) (advising lower courts about the issue of CSI instructions, stating, “[W]e stress that the salutary effect of the instruction is found in the advisement that the absence of such evidence should be factored into the juror’s determination of whether the State has shouldered its burden if, *and only if*, the absence of such evidence, itself, creates reasonable doubt. The absence of evidence, available to the State, may not, *ipso facto*, constitute reasonable doubt. The risk is greatest that such an instruction will run afoul of the prohibition against relieving the State of its burden where the instruction is predominant in the overall instructions and its relation to the reasonable doubt standard unclear. Consequently, the preferable practice is for the court’s instruction to be promulgated in conjunction with the explication of the State’s burden to prove the defendant guilty beyond a reasonable doubt.”).

122. *See, e.g.*, DORIS A. GRABER, MASS MEDIA AND AMERICAN POLITICS 292 (7th ed. 2006); SHANTO IYENGAR & DONALD R. KINDER, NEWS THAT MATTERS: TELEVISION AND AMERICAN OPINION (1987); VICTOR E. KAPPELER, ET AL., THE MYTHOLOGY OF CRIME AND CRIMINAL JUSTICE 5 (1993); ROY E. LOTZ, CRIME AND THE AMERICAN PRESS 121 (Robert E. Denton ed., 1991); MEDIA, PROCESS, AND THE SOCIAL CONSTRUCTION OF CRIME STUDIES IN NEWSMAKING CRIMINOLOGY (Gregg Barak ed., 1994); Steven Keslowitz, *The Simpsons, 24, and the Law: How Homer Simpson and Jack Bauer Influence Congressional Lawmaking and Judicial Reasoning*, 29 CARDOZO L. REV. 2787 (2008); Steven D. Stark, *Perry Mason*

justice on television impact the perception of law and criminal justice in our popular culture.¹²³ Despite profound changes in the breadth and distribution of the television medium itself,¹²⁴ the cultivation theory propounded by George Gerbner decades ago remains a viable explanation for the impact of that medium.¹²⁵ The cultivation concept is that to the extent that people see the world through television, they are more likely to see the real world in terms of the portrayals they see on television.¹²⁶

The media messages about crime and criminal justice have consistently conveyed the world in the “mean world” message observed by Gerbner about crime and an overestimated likelihood of becoming a victim of crime.¹²⁷ Contemporary studies of crime, justice, and mass media construe the theory in terms of social constructionism.¹²⁸ The idea is that reality is not only composed of objective observations but also of information from social interactions of all kinds, including media messages. Factual and fictional messages get blurred as they shape the public perceptions of crime

Meets Sonny Crockett: The History of Lawyers and the Police as Television Heroes, 42 U. MIAMI L. REV. 229 (1987).

123. See *supra* note 122; Susan Huelsing Sarapin & Glenn G. Sparks, *The CSI Effect: The Relationship Between Exposure to TV Crime Dramas and Perceptions of the Criminal Justice System*, Abstract of Crime Conference Presentation, Purdue Univ. Dep’t of Comm’n (2009), <http://news.uns.purdue.edu/x/2009b/091028SparksCrime.html>.

124. The range of sources of mass media in general, and the range of television sources in particular, is much broader and more diverse than when Gerbner formulated the cultivation theory. See Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 1-6; see also Kimberlianne Podlas, “*The CSI Effect*”: *Exposing the Media Myth*, 16 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 429, 430-32 (2006).

125. George Gerbner et al., *Growing Up with Television: Cultivation Processes*, in MEDIA EFFECTS: ADVANCES IN THEORY AND RESEARCH 43, 45-58 (Jennings Bryant & Dolf Zillmann eds., 2d ed. 2002) [hereinafter Gerbner et al., *Growing Up*]; George Gerbner & Larry Gross, *Living with Television: The Violence Profile*, 26 J. COMM. 173, 191 (1976), available at <http://www.unf.edu/~pharwood/courses/fall05/3075fall05/crimegerbner.pdf>.

126. Gerbner et al., *Growing Up*, *supra* note 125, at 43-44.

127. See *id.* at 52.

128. See generally MEDIA, PROCESS, AND THE SOCIAL CONSTRUCTION OF CRIME: STUDIES IN NEWSMAKING CRIMINOLOGY, *supra* note 122 (analyzing how media coverage shapes Americans’ perception of the criminal-justice system); THEODORE SASSON, CRIME TALK: HOW CITIZENS CONSTRUCT A SOCIAL PROBLEM (1995); SURETTE, *supra* note 52 (arguing that media portrayals of criminal activity shapes criminal-justice policy); Shelton et al., *An Indirect-Effects Model*, *supra* note 7 (suggesting an indirect-effects model of social constructionism explains juror responses to forensic-evidence issues in criminal cases).

and criminal justice.¹²⁹ Some of the media messages about criminal justice include ideas that crime is rampant, that the criminal-justice system is not effective to protect people against criminal dangers, and more recently, that science can be used to moderate both of those postulations.¹³⁰ The *tech effect* captures a part of those messages. The increased juror expectations for scientific evidence are grounded in a mass-mediated *tech effect*, which is now engrained in our criminal-justice culture.

V. ASSIMILATION OF THE JUROR INFLUENCES

The reaction of jurors to all of this complex input is clearly more complicated than the over-simplified CSI Effect description implies. Because of the impact of mass-media portrayals about crime, and the actions of criminal-justice participants based on the assumption that the CSI Effect exists, it is also more complicated than the earlier suggestion of a *tech effect* alone implies. In the article following the Wayne County study, a new model for understanding the current situation was proposed, called an Indirect-Effects Model of Mediated Adjudication, described in the following figure¹³¹:

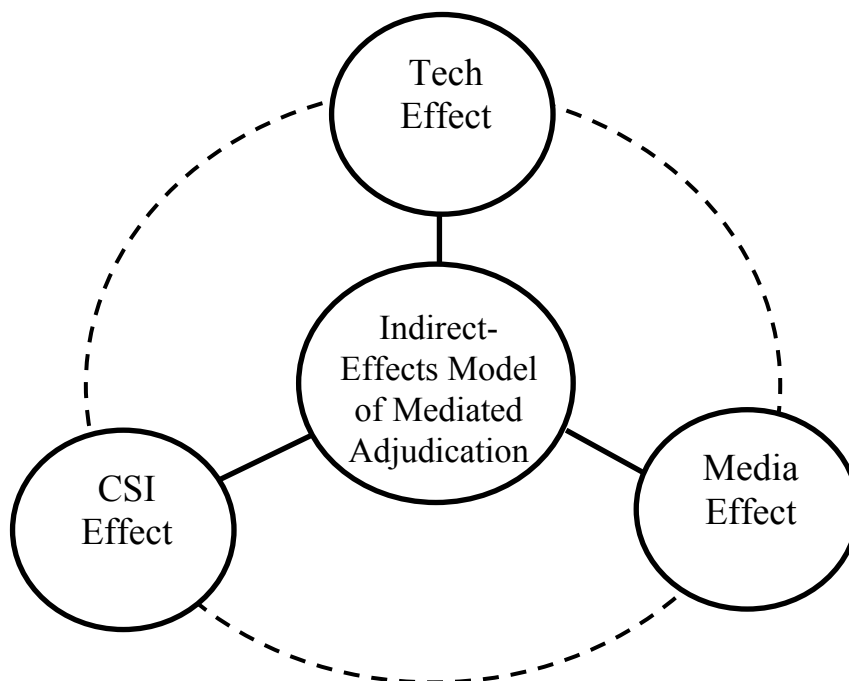
129. Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 37; see SASSON, *supra* note 128, at 151-52; SURETTE, *supra* note 52, at 201-23. See generally MEDIA, PROCESS, AND THE SOCIAL CONSTRUCTION OF CRIME: STUDIES IN NEWSMAKING CRIMINOLOGY, *supra* note 122.

130. See SURETTE, *supra* note 52, at 212 (concluding that the socially constructed world of those who consume the most media results in the belief in the prevalence and spread of crime); see also *id.* at 206 (claiming that the media projects an image of due process hampering the police and that the law works in the criminal’s favor); *id.* at 208 (stating that the media portrays responses to crime as effective if they are technology based).

131. Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 43.

Figure 5:¹³²

An Indirect-Effects Model of Mediated Adjudication



This model attempts to explain jury expectations for scientific evidence today as the combined result of three phenomena. The *tech effect* was described earlier as the changes in our popular culture resulting from advancements in technology and information and the dissemination of knowledge about those advancements throughout society.¹³³ The *media effect* consists of broad portrayals and messages about crime and criminal justice in all types of mass media.¹³⁴ Finally, the CSI Effect in this context reflects the extent to which lawyers, judges, and other criminal-justice actors bring their perceptions of the supposed impact of such *CSI* dramas to jurors in a trial setting.¹³⁵

As the model indicates, these forces act in combination to influence juror expectations and demands for forensic-science evidence. The three factors also have inter-relational impacts on each other (as indicated by the dashed line in the model). For example, the *tech effect* influences the

132. *Id.* at 41.

133. Shelton et al., *Juror Expectations*, *supra* note 4, at 362.

134. *See supra* notes 122-30 and accompanying text.

135. Shelton et al., *Juror Expectations*, *supra* note 4, at 332.

choices of portrayals of criminal justice in mass media, as most simply evidenced by the proliferation of *CSI* and other forensic-science television shows. The media effect influences the legal actors’ perceptions of the justice system, just as it influences jurors, and those messages get reflected in their embrace of the CSI Effect myth and the alteration of their court behavior.¹³⁶ The CSI Effect-motivated courtroom activities of the legal actors in turn influence the mass-media portrayals of the criminal-justice system—especially to the extent that the media now uses actual or dramatized actual cases as fodder for their messages.¹³⁷

VI. CRIMINAL-JUSTICE-SYSTEM IMPLICATIONS

The Wayne County survey asked jurors two additional questions.¹³⁸ First, the survey asked if the jurors thought that the police in Southeast Michigan have laboratory testing, for example, fingerprint, ballistics, hair and fiber, and DNA analysis.¹³⁹ Second, they were asked to identify which cases they would expect to see the police use those types of laboratory tests.¹⁴⁰ The Wayne County jurors, in large part, were of the belief that their local police departments had technologies that would allow them to perform fingerprint, ballistics, hair and fiber, and DNA analysis.¹⁴¹ The data reveals that jurors typically expect some form of technology in all criminal cases. In fact, nearly half of the jurors (45.3%) thought that DNA analysis needed to be used by the police.¹⁴²

It is clear that jurors do have significant expectations that prosecutors will use the advantages of modern science and technology as tools to meet their burden of proving guilt beyond a reasonable doubt. Perhaps jurors are right in expecting much more from the prosecution today. Our legal system demands proof beyond a reasonable doubt.¹⁴³ Where there is an available scientific test that would produce evidence of guilt or innocence, and the prosecution chooses not to perform that test, it may not be unreasonable for the jury to have a doubt about the strength of the government’s case. What is a *reasonable* doubt depends, as the common jury instruction says, on the facts and circumstances of each case.¹⁴⁴ What is *reasonable* evidence to

136. *Id.* at 366.

137. *Id.* at 334-35.

138. Shelton et al., *An Indirect-Effects Model*, *supra* note 7, at 28.

139. *Id.*

140. *Id.*

141. *Id.*

142. *Id.* at 28-29.

143. See *In re Winship*, 397 U.S. 358, 361 (1970).

144. THE INSTITUTE OF CONTINUING LEGAL EDUCATION, 1 MICHIGAN CRIMINAL JURY INSTRUCTIONS 2.6 (2d ed. 1989).

expect from the prosecution today is very different from what it was twenty or even ten years ago. Regardless of its origin, the heightened expectation of jurors for scientific evidence is a legitimate reflection of changes in our popular culture, and the criminal-justice system must adapt to accommodate the jurors' expectations and demand for scientific evidence.

How does the government adapt? The first suggested response is obviously to get the evidence the jury wants. That will take a major commitment to increase law-enforcement resources. The government will need to equip police and other investigating agencies with the modern forensic-science equipment that jurors know is available. And it will require the government to provide those agencies with the significant increases in forensic-science personnel that will enable the results of forensic testing to be available to prosecutors in a timely manner. These extraordinary measures may not seem reasonable to many prosecutors. With all due respect, that is not the issue. The issue is only how the criminal-justice system is going to respond. The issue, in this regard, is whether the government will have the political and financial wherewithal to make this kind of investment.

This would be very expensive. The National Academy of Sciences's report to Congress looked at our current forensic-science capabilities and found that "[e]xisting data suggest that forensic laboratories are under resourced and understaffed, which contributes to case backlogs and likely makes it difficult for laboratories to do as much as they could to (1) inform investigations, (2) provide strong evidence for prosecutions, and (3) avoid errors that could lead to imperfect justice."¹⁴⁵ The government conducted a study of laboratory resources in 2002 and followed it with another laboratory census in 2005.¹⁴⁶ The 2005 study with regard to public laboratories revealed:

An estimated 359,000 cases were backlogged (not completed within 30 days) at the end of 2005, compared to 287,000 at yearend 2002 This represents a 24% increase in backlogged cases between 2002 and 2005. State laboratories accounted for more than half of the backlog in both years.

145. NAT'L RESEARCH COUNCIL OF THE NAT'L ACADS., *supra* note 113, at 14.

146. Matthew R. Durose, *Census of Publicly Funded Forensic Crime Laboratories, 2005*, BUREAU OF JUSTICE STATISTICS BULLETIN (2008), available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/cpffcl05.pdf>; Joseph L. Peterson & Matthew J. Hickman, *Census of Publicly Funded Forensic Crime Laboratories, 2002*, BUREAU OF JUSTICE STATISTICS BULLETIN (2005), available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/cpffe102.pdf>.

Among the 288 laboratories that reported this information, the median number of cases received in 2005 was about 4,100. Overall, laboratories ended the year with a median backlog of about 400 cases. Six percent of laboratories that received cases in 2005 reported having no backlog at yearend.¹⁴⁷

The 2002 report found that to accomplish a 30-day turnaround for all forensic-services requests that year, almost 1,900 additional full-time personnel would have been needed; and based on an analyst’s starting salary, it would cost over \$70.2 million to employ the additional personnel.¹⁴⁸

The second suggestion for the prosecution is less expensive but, perhaps, more difficult. It requires better trial preparation and trial advocacy by prosecutors. Specifically, when scientific evidence is not relevant, prosecutors need to find better ways of explaining the lack of relevance to jurors.¹⁴⁹ And more generally, prosecutors need to understand, and address, the fact that jurors come into the courtroom filled with a great deal of knowledge about the criminal-justice system and the availability of scientific evidence, much of which is correct.

On the other hand, the *tech effect* is a double-edged sword. If there is scientific evidence, the defense has a big problem. So how is the defense likely to adapt to these new scientifically minded jurors? One thing is sure—playing the “Luddite” no longer works for the prosecution or the defense. The Luddites were a sect that opposed almost all of the innovations of the Industrial Revolution; they started by opposing the use of looms in the weaving industry rather than the traditional weaving by hand.¹⁵⁰ Lawyers love to use the same tactic. Some lawyers think it is endearing, or even cute, to tell the jury, *I don’t know anything about all these computers and DNA stuff; shucks, I can’t even program the remote on my TV to watch football*. It should be obvious from these studies that this approach will not work anymore. The jurors do know about those things, and they do not think it is cute anymore. They think, rightly, that either the government or the defendant is not getting very good representation.

Defense counsel will need to adapt to these new jurors. They may do so with aggressive discovery motions. The backlog at the police

147. Durose, *supra* note 146, at 4.

148. Peterson & Hickman, *supra* note 146, at 1.

149. See Shelton, *Twenty-First Century*, *supra* note 114, at 381-87.

150. KIRKPATRICK SALE, *REBELS AGAINST THE FUTURE: THE LUDDITES AND THEIR WAR ON THE INDUSTRIAL REVOLUTION: LESSONS FOR THE COMPUTER AGE* 3, 70-72 (1995).

laboratories often means the government wants to wait until the last moment before trial to produce its forensic evidence. This leaves the defense with little time to prepare or respond, and courts may be willing to enforce some tougher deadlines if the defense requests it. When the prosecution does not produce scientific evidence, the good defense attorney will emphasize that lack of evidence to the jury. They will cross-examine police witnesses about the testing that the jurors know is available. When they know the government is relying on scientific evidence, the defense needs a plan to react to it. One thing lawyers can learn from these studies is that jurors still believe, however erroneously, that eyewitness testimony is the most important type of evidence. Good defense lawyers will use expert testimony or at least expert background information to probe for problems with the reliability of the government's forensic evidence, such as possible contamination problems or statistical vulnerabilities to the government's analysis. The results of these studies suggest that the best approach for the defense will be to take the offensive and get their own scientific evidence. The jury expects scientific evidence from the criminal-justice system, not just the government.

Trial judges will also need to adapt to the modern use of scientific evidence. In federal cases and most state jurisdictions, the trial judge is now the gatekeeper for the admissibility of proffered scientific evidence.¹⁵¹ The challenges of this gatekeeping role are manifold and involve the trial judge in aspects of forensic-science evidence that are much greater than any so-called CSI Effect.¹⁵²

VII. CONCLUSION

Rather than any direct CSI Effect from watching certain types of television programs, our studies in Washtenaw and Wayne Counties suggest that these juror expectations and demands for scientific evidence are the result of broader changes in our popular culture, fostered by the mass media and by litigants' beliefs that the effect exists. Those broad and pervasive changes lead jurors to expect that the prosecutor and the defense will obtain and present the scientific evidence that technology has made possible.

The criminal-justice system must find ways to adapt to, rather than fight against, this new, more modern juror. It may take a paradigm shift, and it may cost a lot of money. But unless that happens, juries may well

151. See FED. R. EVID. 702; *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147 (1999); *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 142 (1997); *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589 (1993).

152. See generally Shelton, *Twenty-First Century*, *supra* note 114, at 378-90.

conclude that there is *reasonable doubt* that the criminal-justice system is doing its job.

