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Of forensic science in New South Wales.

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Hollywood Profiling: The impact of the *CSI Effect* on the use of forensic science in New South Wales.

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Abstract:

Since 2000 the CBS television programme, *CSI: Crime Scene Investigation*, has made forensic science look quick and easy. *CSI*, and similar shows such as *Law and Order SVU: Special Victims Unit*, *NCIS: Naval Criminal Investigation Service*, and *Criminal Minds*, routinely use forensic science to accurately identify offenders. Science is portrayed as the overarching truth that exposes the lies of the offender and provides certainty in an investigation. It has been argued that the popularity of these programmes has led many jurors to now expect to see the *CSI*-like ‘technical wizardry’ in the courtroom, and when the prosecution fail to produce such ‘reliable and objective’ results, the jury fail to convict a defendant. This phenomenon has been dubbed the *CSI Effect* by journalists and academics, and there is strong evidence to suggest that the popularity of these television programmes are having a widespread impact on criminal justice systems around the world. This paper explores some of the impacts that the *CSI Effect* is having on the New South Wales criminal justice system, and the implications of these changes for the way forensic science is used in both the investigation and prosecution of criminal offences.

Introduction

Over the past century there has been a growing public interest in law and order issues, stretching well beyond the desire for safety and security. As part of this growing public interest, crime has become a strong feature of popular culture over the past half century. In recent years we have seen an increasing amount of law and order-related programming on television, with depictions of crime, criminals and the criminal justice system becoming a popular recreational activity for a large proportion of the population in Western societies. For example, in its second season, *CSI: Crime Scene Investigation* was rated as the second most popular television programme in America, with 23.69 million regular viewers, and has since remained one of the most popular programmes of the decade (Cole and Dioso-Villa 2007). Along with the numerous *CSI* spinoffs, such as *CSI: Miami* and *CSI: New York*, the popularity of this type of show has also been linked

to the creation of numerous other television programmes of a similar format, such as *Law and Order SVU: Special Victims Unit*; *NCIS: Naval Criminal Investigation Service*; and *Criminal Minds*.

The popularity of *CSI: Crime Scene Investigation* can be seen not only in the numerous spin offs it has created, but also through the amount of merchandise that it has created. For example, *CSI: Crime Scene Investigation* now has a range of interactive computer and console games that allow the viewer to adopt the role of a crime scene investigator or scientist and solve a number of gruesome crimes. In addition, it is not just adult viewers that are becoming enamoured by these television programmes; children are now the target of *CSI* merchandise and informal crime scene training. Building upon the popularity of crime scene shows, Planet Toys have developed a range of *CSI*-related toys that enable children to become a crime scene investigator and to catch the 'guilty party'. Within the range there is a *CSI* DNA Lab, *CSI* Field Kit, *CSI* Impression Kit, *CSI* Handwriting Kit, *CSI* Facial Reconstruction Kit and a range of others.

Children are also introduced to the use of forensic science to solve criminal cases in Schools across Australia. In just one example, The Armidale School (TAS), located in New South Wales (NSW), runs a Forensic Science Camp each year for 150 students from year 8. As part of TAS's advertisement they reinforce the concept that crime scene investigations are exciting and that there are people who have jobs like that of Grissom in *CSI*:

We can put you right in the middle of the action for 5 exhilarating days in a crime solving situation that is so realistic that you will forget that its [sic] only a game. You will be a detective, you will interview witnesses, you will order medical and scientific tests, you will search the criminal databases, you will test the physical evidence yourself in the laboratory. You will request search warrants. You and your colleagues will sift through the evidence, pursue 'red herrings', argue your point of view, and when and if you crack the case you will make a formal application backed by solid evidence to convince a Judge that your suspect should stand trial. The grand finale of the 5 day camp will be a court trial and you will be up to your eyes in it playing a role such as expert witness, accused or defence barrister (<http://www.as.edu.au/forensics/Home.html>).

While there has been excitement within the forensic community based on the fact that science is attracting more interest (Frey 2004), concerns have also been raised that programmes such as that run by TAS are reinforcing unrealistic perceptions about the role of forensic science in criminal cases, and the work of the people within the criminal justice system.

A number of criminalists in America have argued that the science portrayed on shows like *CSI* is accurate and a true reflection of the science available to law enforcements (Frey 2004). One of these criminalists, Elizabeth Devine, argued, "The technology is real and the science is real – that's really our watermark ... We do not make up the science." (cited in Frey 2004). However, others have argued that 40% of the forensic science depicted on *CSI* simply does not exist (Thomas Mauriello cited in DiFronzo and Stern 2007: 526). Despite this contradiction, it is commonly agreed that the science portrayed in these shows is simplified, the lengthy processes are sped-up considerably and much of

the equipment used within the fictional laboratories is too expensive for most real-life crime laboratories (Frey 2004; Gelineau 2005). As a result of the misconceptions arising from these shows, many universities now spend considerable time 'debunking' the myths that forensic science students bring with them to their studies (Gelineau 2005).

With the growing number of television shows depicting forensic science, and the use of children's toys and forensics camps that are based upon unrealistic *CSI* type programmes, it is not surprising that there have been concerns that potential jury members are now measuring real-life criminal forensics to those techniques that are appearing on television. This paper explores the *CSI Effect* and the impact it is having on the New South Wales criminal justice system. The first part of the paper explores the current debate surrounding whether the *CSI Effect* exists and provides evidence from previous studies that criminal justice practitioners are experiencing new challenges within their jobs as a result of the *CSI Effect*. The second part of the paper details how criminal justice practitioners are changing their behaviour to accommodate these new challenges and the implications this has for the wider criminal justice system.

Methodology

To gauge the experiences of jurors with forensic evidence, 32 face-to-face interviews were conducted with criminal justice practitioners within the NSW criminal justice system between 2006 and 2007. A number of groups were included in this study, including police, forensic scientists, scene of crime officers (SOCOs), prosecutors, defence lawyers, and judicial officers. The main aim of each interview was to determine the use and impact of DNA evidence on the criminal justice system. As part of this interview process, a number of research participants were asked direct questions about the *CSI Effect*, whilst other participants volunteered information about the *CSI Effect* prior to being asked. Of the 32 respondents, 14 criminal justice practitioners mentioned the *CSI Effect* and how it had affected their occupation. All of those 14 respondents believed that television shows such as *CSI* had affected their job in some way or another.

As the focus of the interviews was on the broader implications of the use of DNA profiling on the criminal justice system, the interviews were not designed to illicit extensive or specific information about the *CSI Effect*. The only participants to be directly asked how television programs, such as *CSI*, had impacted upon their self-image and the public perception about their job were the scientists. Despite this, three of the scientists introduced the topic of the *CSI Effect* before they were directly asked about it, and three of the defence lawyers, one of the judges, one of the police officers, one of the SOCOs, and three of the prosecutors openly discussed how they believed the television shows affected the execution of their jobs. Nearly all of these practitioners introduced the topic of the *CSI Effect* when asked how widespread the use of DNA profiling was in the criminal justice system and how jurors responded to DNA evidence. This became a significant finding because, anecdotally, the respondents reported that they were changing their practices to accommodate the *CSI Effect*.

There are a number of limitations with this research. The use of interviews will inevitably affect the data, especially when they are based on a number of groups with small sample sizes (Sarantakos 2005:46).¹ The small groupings of participants (the largest group was seven judicial officers) poses serious concerns about the representativeness and generalisability of the findings. In addition, the study only included participants who worked within the Sydney metropolitan region. As such, there are limits to the degree to which the findings of this study can be seen as representative of the broader community or of issues affecting criminal justice practitioners outside of Sydney.

The *CSI Effect*

Since the early 2000s, there have been an increasing number of television programmes that depict crime scene investigations and the use of forensic science to solve heinous crimes. Shortly after these shows became popular, there were complaints from lawyers and judges in America about the perceived changing requirements of juror verdicts (Franzen 2002; Willing 2004; Roane 2005). The term *CSI Effect* was quickly coined by journalists to describe instances where jurors convict if forensic evidence is present, or where they refuse to convict if there is an absence of forensic evidence (Hooper 2005; Franzen 2002; Willing 2004; Gonzales 2005).

Law enforcement agencies and academics also quickly adopted the term, *CSI Effect*, and have extended the claim to argue that, in addition to courtroom practices being affected, investigations are also now being affected. According to Holmgren and Fordham (2011: s63):

Ever since the hit television show *CSI: Crime Scene Investigation* and its spin-offs appeared on television in 2000, prosecutors and law enforcement personnel have speculated that this show (and other forensically focused shows) has given jurors heightened expectations about the evidence to be presented at trial. This so-called *CSI effect* includes the increased and unrealistic expectation that crime scene will yield plentiful samples that can be analysed by near-infallible forensic science techniques and will be presented as such in the courtroom. The popularity of these shows has been said to have detrimentally influenced jury deliberations as discussed anecdotally in the world media.

As such, the *CSI Effect* can be understood to be “the rise of unrealistic expectations of real-life jurors for there to be conclusive and reliable forensic evidence presented throughout a criminal case” due to the fictionalisation of forensic evidence in television programmes (Wise 2010: 384). However, it may be the case that the strength and impact of the *CSI Effect* differs amongst different areas of the criminal justice system. There is clear evidence that the *CSI Effect* has affected lawyers, SOCOs and police, but the impact upon juries is still being debated. As the above quote from Holmgren and Fordham (2011) suggests, there is little empirical evidence that the *CSI Effect* actually exists.

¹ Only a small number of criminal justice practitioners were interviewed within each group: police officers (n=5), forensic scientists (n=5), scene of crime officers (n=5), prosecutors (n=5), defence lawyers (n=5), and judicial officers (n=7).

While there is a growing body of literature that has examined the *CSI Effect* amongst juries, the results from these studies often contradict one another and much of the work published relies upon anecdotal accounts of the alleged *CSI Effect*.

Several studies in the USA, Canada and Australia have disputed the existence of the *CSI Effect* among juries. For example, Podlas (2006), Shelton, Kim and Barak (2006) and Holmgren and Fordham (2011) have all argued that television programmes such as *CSI* have not had an adverse impact on criminal trials and jurors are not swayed by the presentation of *CSI* type evidence. In 2006, Shelton et al (2006:332) claimed that they were the first researchers to empirically examine the ‘existence and extent’ of the *CSI Effect* on jurors. Shelton et al (2006) surveyed 1027 Americans who had been called for jury duty during 2006 on their television viewing habits. The results indicated that while jurors did expect to see forensic evidence presented at trial, it was not directly related to watching specific crime television programmes such as *CSI: Crime Scene Investigation*. At the same time as Shelton et al’s (2006) study, Podlas (2006) conducted a mock jury study of 306 American undergraduate and graduate students to determine whether frequent viewers of *CSI* were more likely to convict where there was forensic evidence and less likely to convict where there was an absence of forensic evidence. Similar to Shelton et al’s (2006) finding, Podlas (2006) argued that there was no clear *CSI Effect* among juries and that frequent viewers of *CSI* were influenced by the same factors as those people who rarely watched *CSI*.

More recently, a Canadian study has also undermined the validity of the *CSI Effect* theory as it is currently defined. Jane Holmgren conducted a survey of jury-eligible college students at Mount Royal College in Canada (Holmgren and Fordham 2011). Holmgren designed her study to include questions that would determine the respondents’ perceptions, interpretations and understanding of forensic concepts that were portrayed in forensic crime-related television shows such as *Law and Order* and *CSI* (Holmgren and Fordham 2011: s64). The respondents’ perceptions of forensic science on these shows were then compared to questions relating to how the respondents’ viewed specific examples of expert testimony. While 79% of the women, and 68% of the men stated they watched crime-related television programs on a regular basis, the results indicated that the *CSI Effect* does not exist as it is currently understood, in that jurors did not purely change their verdict based on the presence of forensic science at trial.

Rather, it was discovered that television-watching habits did have a wider effect on the jury’s understanding or acceptance of forensic evidence, and that the absence of forensic science was a major consideration for many potential jurors. For example, Holmgren discovered that 71% of respondents learned about forensic techniques, such as DNA evidence, from media sources such as newspapers, news and crime television shows; and that 76.2% of respondents’ believed that a DNA match was the best piece of evidence in any type of case (Holmgren and Fordham 2011: s64). In addition, half of the potential jurors believed that time of death was easily determined as a result of watching television programmes such as *CSI*. One of the more significant findings of the study indicated that 73.1% of the respondents stated “they would find it difficult to convict someone of a crime if there was not any forensic evidence available” (Holmgren and Fordham 2011:

s65). This finding suggests that at least part of the *CSI Effect* is real, and that a major concern for jury members is the lack of forensic evidence.

Prior to research on the *CSI Effect*, several studies found that potential juries were influenced by forensic science, and in particular DNA evidence (Koehler 2001; Wheate 2006; Findlay 2008; Goodman-Delahunty and Tait 2006). Both Shelton et al (2006) and Holmgren (Holmgren and Fordham 2011) produced similar results, where juries expected to see some form of forensic evidence to support a case. This indicates that the phenomenon described by the *CSI Effect* is nothing new; it simply has a new name and has been attributed with a greater emphasis in more recent years. Shelton et al (2006: 333) argued that the desire to have forensic evidence in a case:

... may have more to do with a broader ‘tech effect’ in popular culture rather than any particular ‘CSI effect’. In other words, if there is a media effect on juror expectations, it is an ‘indirect’ effect and part of a larger transformation occurring in popular and technological cultures (Shelton et al 2006: 333).

This tech effect is a result of changing popular culture, which has recently placed a greater emphasis on forensic science and the dramatisation of actual cases (Shelton et al 2006:333–4). Given the results of the studies conducted by Shelton et al (2006), Podlas (2006) and Holmgren (Holmgren and Fordham 2011), the ‘tech effect’ explanation appears to be a more realistic explanation of changing juror patterns, than the narrower theory of the *CSI Effect*.

Other academic studies and the media have, in contrast, found strong evidence to suggest that the *CSI Effect* is a real phenomenon. In one mock jury study of American university students, there was evidence to suggest:

... people who watch such television programs [*CSI*] regularly expect better science than what they are often presented with in courts ... In other words, *CSI* leads viewers to expect high-tech science and something more than the intuition of the witness, so that when in court they are presented with much lower-tech science and the witness’s subjective judgment, they are likely to find it less convincing than do non-*CSI* viewers (Schweitzer and Saks 2007: 363).

As already mentioned, there is also a lot of anecdotal evidence that has given the *CSI Effect* credibility. For example, there have been numerous media articles that have quoted (mainly American) lawyers, police, judicial officers and even ex-jury members bemoaning the fact that *CSI* is having a significant impact on jury members. For example:

“There is an increased and unrealistic expectation that every crime scene will yield plentiful forensic evidence,” said Alexandria Commonwealth’s Attorney S. Randolph Sengel, who talked to jurors after the drug trial. “As a result, we spend time now explaining to juries the absence of evidence.” And when interviewing potential jurors, Sengel said, he and his team of prosecutors have “recently taken to reminding them that this is not ‘CSI’” (Stockwell 2005).

A prince George's County jury would not convict a man accused of stabbing his girlfriend to death because a half-eaten hamburger, recovered from the crime scene and assumed to have been his, was not tested for DNA (Stockwell 2005).

... it's one thing to hear the jury foreman in the Robert Blake trial declare that the has-been actor had been found not guilty of shooting and killing his wife because there was "no GSR" (that's gun shot residue, for you non- "CSI" fans) on his hands to nail him beyond reasonable doubt. The guy was up on a murder charge, after all. But the forensic frenzy materialized in our not exactly earth-shattering firearm and drug possession case ... "I don't understand why we don't have more evidence," complained one of my fellow jurors. "Why didn't they try to get fingerprints from the car? And off the keys." "Why didn't they try to get some DNA, or hair or something, off the jacket?" demanded another (Smardz 2005).

In addition to these media articles, academics have also published accounts of the *CSI Effect* based on interviews and surveys with jury members, police officers, lawyers and judicial officers. For example, in Western Australia, Judith Fordham has interviewed jurors who have served on criminal trials in which expert testimony was presented. Jurors were asked to complete a survey and participate in a follow-up interview, which asked about their jury experience, understanding of expert testimony, the jury room experience and opposing experts (Holmgren and Fordham 2011: s64). The study failed to produce conclusive evidence that the *CSI Effect* exists, however it did provide more anecdotal evidence that some jurors are affected by television shows such as *CSI*, thus adding credence to the *CSI Effect*. For example, one juror in Fordham's study stated:

We were so upset that ... they never did the nail scrapings. It leaves us jurors thinking 'why not?' ... it was such a hard case anyhow, but we thought 'oh well, if they've got DNA we'll be fine. It will just give us the answers' ... [A]ll they said to us was 'it's not like it is on TV' but that isn't really explaining (Holmgren and Fordham 2011: s67).

Research with criminal justice practitioners has also produced anecdotal evidence that the *CSI Effect* is apparent in criminal trials in NSW. For example:

Juries are rapt, when they're watching DNA experts, their attention is as focused on the DNA expert as it was on the victim. Their eyes aren't wondering. I love it; I love calling DNA experts because it's a really juicy moment in the trial. They think they are getting the *CSI* treatment (Prosecutor 2).

There is an expectation that it will be very helpful, back to *CSI* and all those kind of things. The problem with those shows is that they misrepresent the reliability of DNA, as they do with all the other scientific stuff they get into. And sometimes you need to work a lot harder than you ought to, to try and explain how juries can and can't use it ... So when you want to start picking through the detail of the DNA analysis people can become exasperated, because DNA doesn't lie (Defence Lawyer 4).

I think juries expect it [DNA] to be there. As a result of watching *CSI* — shows like that — I really do and because the defence now make much of the fact, of the absence of DNA and where one would expect it, that is something we have to meet (Prosecutor 1).

Most television shows that deal with DNA, simply deal with it as virtually 100% identification and don't really go into the issues that it can involve ... I think it will remain quite difficult to get the true effect of DNA across to juries (Judicial Officer 4).

In June 2005, the Maricopa County Attorney's Office (USA) conducted a survey of 102 prosecutors with jury trial experience with the purpose of determining whether the *CSI Effect* existed, and, if it did, what the impacts of it were on the criminal justice system. The paper concluded that the *CSI Effect* did exist and that a number of the prosecutors believed that they had lost at least one trial because of a lack of forensic material and that the jury often focused too much on scientific evidence whilst paying too little attention to unscientific evidence like eyewitness testimony or police testimony (Maricopa County 2005: 5-6). In another American study, Robbers (2008: 95) found that 85 percent of 290 American lawyers and judges felt that the *CSI Effect* had changed their job, and in particular the time it took to explain DNA evidence to the jury (Robbers 2008: 95).

The impact of the *CSI Effect* on criminal justice procedures

Whilst the existence of the *CSI Effect* among juries is still being debated, there is strong evidence to indicate that it has affected other procedures within the criminal justice system. In particular, one of the main impacts of the *CSI Effect* for police, SOCOs, and lawyers is the growing desire and perceived need for forensic evidence in a case. As already mentioned, television shows depicting heightened levels of forensic science to investigate and solve criminal cases have come under recent scrutiny for allegedly changing the practices of those involved in the criminal justice system. This *CSI Effect* has been associated with changing the practices of offenders, victims, police officers, scene of crime officers (or crime scene examiners), lawyers, judicial officers and the jury (Wise 2010; Huey 2010).

Impact on courtroom practices

It has been argued that the *CSI Effect* is having an affect on several areas of the courtroom process, including plea agreements, opening and closing statements, calling on experts to explain the absence of forensic tests and questioning jurors about their television watching habits during voir dire (Cole and Dioso-Villa 2007: 448; Cooley 2007: 491; DiFonzo and Stern 2007; Pyrek 2007; Wise 2010). For example, in the Maricopa County (2005: 8) study, 52% of prosecutors engaged in plea negotiations "in which they felt the defendant may have received a more lenient plea offer because of anticipated problems with the *CSI Effect* if the case were to be presented to a jury".

Part of the impact of the *CSI Effect* is that prosecutors and defence lawyers are starting to introduce forensic evidence into trial, even where it is not strictly needed. In certain cases, lawyers have requested additional tests from laboratories because they believe that a jury will not convict without some form of forensic evidence (Cooley 2007: 491; Wise 2010: 393). In addition, where there is an absence of forensic science, lawyers are starting to call expert witnesses to provide an explanation for why no forensic evidence was found at the crime scene, or why scientific testing failed to produce a result. Several

lawyers within NSW discussed these issues in 2006, when the *CSI Effect* was still a relatively new phenomenon:

Because there is an expectation from the public that DNA will be called, DNA evidence will be produced in any contested criminal matter to prove the prosecution case. Thank you *CSI* (Defence Lawyer 1).

If you haven't got evidence that goes to a DNA style of evidence it's amazing how many defence counsel will raise that as a submission in closing statements to the jury, to the effect of 'and you haven't even got DNA evidence'. So immediately people think, 'yeah I saw that series of *CSI* and I know they can do it' and I think it's a real cheap trick (Prosecutor 2).

According to Prosecutor 2, defence counsel would draw the jury's attention to the absence of forensic material in a trial in order to create doubt about the prosecution case. In response, some prosecutors in NSW have started to call forensic scientists to trial to explain to the jury why no forensic evidence was found. A number of the scientists interviewed reported being issued with subpoenas to attend court solely for this purpose.

Research from other studies, and anecdotal evidence from the media, indicates that lawyers should be engaging in these tactics. For example, in the study of 102 attorneys in Maricopa County, respondents reported that some jurors had asked them for evidence even if it was not mentioned or presented at trial (Maricopa County 2005). In just one example presented by Maricopa County, it was alleged that in one criminal trial a police officer saw the defendant throw a bag of drugs to the ground. According to the attorney involved in this case, the jury complained after the trial that the police testimony was insufficient and that the bag of drugs should have been fingerprinted.

Similarly, Holmgren found that most of the Canadian jury-eligible respondents in her study (83.6%) believed that DNA evidence should *always* be used in sexual assault cases (Holmgren and Fordham 2011: s65). In addition, the study also found that:

Another factor for both the defense and the prosecution to consider is that 73.1% ($n=442$) of those surveyed said that if they were a juror, they would find it difficult to convict someone of a crime if there was not any forensic evidence available. For example, 284 women (75.3%) and 158 men (69.2%) agreed that they would have difficulty convicting someone if forensic evidence was not available (Holmgren and Fordham 2011: s66).

Holmgren concludes that while the study only asked jury-eligible participants how they might determine a criminal case, the finding that respondents would find it difficult to convict without some form of forensic evidence "underlies the need for jurors to be educated about reasons forensic evidence is not always available and untainted" (Holmgren and Fordham 2011: s66). A part of this process may be calling expert scientists in to continually explain why forensic evidence is not available in a particular case. As already mentioned, some prosecutors are already engaging in this practice in NSW, and 90% of the prosecutors surveyed in Maricopa County (2005: 9) frequently explained to "juries why police might not collect the kind of evidence depicted in television shows", and 75% introduced expert witnesses solely to counter the effects of juror perceptions about forensic science created by television shows like *CSI*.

Impact on investigations

While the *CSI Effect* is having its most significant impact on courtroom practices, it is also impacting upon police and crime scene examiner procedures. For example, police investigators are now experiencing queries from victims and citizens as to why they are not collecting specific forensic samples, or why they are not processing a crime scene the way investigators do on *CSI* (Huey 2010; Wise 2009; Lovgren 2004; CBS News 2006). One of the first anecdotal documentations of this appeared in a National Geographic article on the *CSI Effect*, where reporter Lovgren (2004) reported that:

A few months ago, a crime scene investigator from the Los Angeles County Sheriff's Department was dusting for fingerprints at the scene of a residential burglary. The victim of the crime was not impressed, however. "That's not the way they do it on television," she told the investigator.

Huey (2010) also reported that victims and witnesses were routinely questioning both police officers and crime scene examiners in Canada about a range of their duties. For example:

People start to interview the witnesses themselves, and then saying, 'well, you didn't ask this question.' ... that has become a real big problem where people don't leave us to do the investigation and they are starting to do investigations on their own (Major Crimes Investigator cited in Huey 2010: 57).

"Well aren't you going to ...?" because that [technique] figured prominently in some episode they saw (Forensic Identification Officer cited in Huey 2010: 57).

I've noticed that since the show [CSI] ... these are the perceptions that people have: I should be walking to the edge of the room, peering in, seeing one hair to the exclusion of all the others that are on the carpet, realize its significance ... And I do have to explain to people, because if I don't get down on my hands and knees and search for the burglar's hair, then I'm not doing my job! (Forensic Ident Officer cited in Huey 2010: 58).

As the quotes suggest, both forensic officers and police officers believed that television shows had affected the way they were perceived by the public. This change in perceptions has resulted in victims believing they have enough knowledge to question the practices of police and crime scene investigators, which has in turn changed the way these criminal justice practitioners handle crime scene investigations.

The glamorisation of police investigations on television has created the "perception among police officers that the public expects them to perform at near superhuman capacity in order to match the dazzling work of their media 'rivals'" (Huey 2010: 65). In reality, this means that officers are often required to do more work at a crime scene in order to allay the concerns of victims or witnesses. As the quotes above suggest, police are required to ask more questions and forensic officers are required to either collect more forensic samples or explain why they are not collecting additional samples from a crime scene. In addition, Huey (2010) has proposed that officers can suffer from role strain because victims and witnesses are now questioning the expertise of the police officer or crime scene investigator. Role strain can lead an individual to feel frustrated, anxious, irritable and distressed (Huey 2010: 63). Huey (2010: 65) found that nine of the

31 police detectives interviewed found that the increased workload and the questioning of their expertise led to feelings of frustration or role strain.

In NSW, there was evidence that scene of crime officers and scientists were experiencing more role strain as a result of these television shows, as opposed to police officers, with only one police officer commenting that “I often get asked by members of the public, ‘but was there DNA located?’” In contrast, most of the SOCOs reported being pressured by both victims and police officers to collect certain types of evidence, and in particular the types of evidence that appear on television shows such as *CSI*. For example, one SOCO commented:

... because often you’ll go to a scene and the detective will be leaning on your SOCOs or me to collect and they’ll want door handles swabbed and this swabbed, and that swabbed. And they think it’s this magic bullet, you just hold onto the swab and the DNA jumps on it ... (Scene of Crime Officer).

In addition, police officers may want SOCOs to collect more samples from a crime scene than they are actually authorised to collect in order to make a case appear as strong as those on television programmes. In the “interest of harmony”; the SOCO will often collect the extra samples.

Forensic scientists have also experienced a number of changes in their occupation since the introduction of DNA technology. One of the main changes is that the NSW forensic scientists have become concerned with the amount of “CSI style requests” that the police and prosecutors now make. For example:

...a lot more easier if they didn't watch CSI [laughs], ‘cause we do get a lot of CSI style questions, CSI style requests. We do get swabs off glove marks because they think well maybe he has touched his face and then when he has touched his face he has transferred his DNA onto the counter, which might be fine, but 50 other people have touched that counter without gloves and with a lot more DNA to leave. It comes into that side of things where they don't really understand and that it's not the last person to touch it as to who's DNA your getting. It is whatever DNA happened to be on that item at that time and that's not the thing - 'well can't you tell us if they were the last ones to touch it', or last ones to wear it? So forensic awareness would be great ... (Forensic Scientist 3).

I've had police on the phone saying to me 'I was watching *CSI* and they did this, they got DNA for something ridiculous ... (Forensic Scientist 4).

Both of these quotes demonstrate how the *CSI Effect* has changed practitioner’s views and experiences. These quotes also suggest that television programs such as *CSI* are educating not only the general public, but also some practitioners in the criminal justice system.

The increased desire to have forensic evidence during a criminal trial, or at the least to have expert evidence explaining the absence of forensic evidence at trial has had a significant impact on some laboratories in Australia and the USA. Stephens (2007: 599) highlights that the *CSI Effect* has had a “definitive impact on crime labs”, especially in the form of backlogs of forensic samples. Scientists in NSW also noted that the increased time they spent at court, either to present evidence or to present expert testimony for the absence of forensic material, was resulting in less time working within the laboratory to

process DNA samples, which was also adding to the backlog of samples.² The consequences of the backlogs are the postponement of court dates (Wise 2010) and the increased likelihood of laboratory errors as scientists try to work faster (Stephens 2007; Cooley 2007).

There has been considerable criticism of the characters portrayed on shows such as *CSI*, and how they are distorting the viewing public's perceptions about criminal justice practitioners. One of the aspects of these programmes that appeals to audiences is that they make forensic science, and the people involved with criminal cases, look 'sexy'. For example, the forensic science in *CSI* has been described by the media as 'sexy, fast, and remarkably certain' (Roane 2005). Forensic scientists are portrayed as sexy and quirky, and the scientific tests they perform are marketed as effortless and expedient (Cole and Dioso-Villa 2007). This portrayal of forensic scientists and detectives is having an effect on how real-life practitioners are being seen by the public, as already noted above in relation to role strain. For example, in one American media report, several criminalists reported a significant change in the way they were perceived by the public; going from the "science geeks" to "cool" (Frey 2004).

One defence lawyer in NSW was amused by the representation and the inaccuracies of the show.

But you only have to watch some of these programs, I despair at them. I don't watch them but my wife watches them and my daughter loves watching them to. And I couldn't handle it; once you know a bit more about the sciences of these programs you can see how it is all choreographed. I recall at one stage I came out in the kitchen where my wife was watching the show [CSI] and there was the scene, it was in a crime scene and it was in a very darkened place and there was a very sort of soft lighting there. And there was this forensic scientist taking some swabs at the crime scene and she was quite an attractive woman and she was wearing what appeared to [be] very tight slacks. She was showing a fair bit of mid-drift with a singlet top with either Miami or CSI on it and she was beautifully made-up. And it was only a couple of days ago that I was looking at a crime scene video of a murder of a little girl at the [Place name removed] and there were two middle aged men wearing dirty blue overalls taking exhibits from this caravan [laughs] so do you know what I mean?" (Defence Lawyer 2).

While this quote only focuses on the physical aesthetics of the show, it does highlight some of the reasons why the show is so popular and the inaccuracies of it. Forensic scientists rarely attend crime scenes, and in most criminal jurisdictions within Australia scene of crime officers or police officers collect the evidence and then submit it to the laboratory at a later date. Also, as the lawyer commented, the SOCOs or police officers will be wearing protective clothing to prevent contamination. While it might seem common sense to most people that these shows are not a direct reflection of reality, part of the rising concern within the criminal justice system is that jurors do not understand that it is a dramatisation and take forensic evidence on television at face value.

² In August 2004, the NSW government-run forensic laboratory had a backlog of 7,000 samples (NSW Ombudsman Report 2006: 68).

Conclusion

The *CSI Effect* has received a lot of international attention in recent years and has created debates about how forensic crime television programmes have impacted on the criminal justice system. The creator of *CSI*, Anthony Zuiker, has stated that: ‘The “CSI effect” is, in my opinion, the most amazing thing that has ever come out of the series. For the first time in American history, you’re not allowed to fool the jury anymore’ (cited in CBS News 2005). While most others are not as enthusiastic (or optimistic) about the *CSI Effect*, there is clear evidence that it is impacting upon criminal justice systems around the world. Criminal justice practitioners are changing their behaviour to accommodate the perception that jurors want scientific evidence. This in turn, has had a wider impact on the resources available to forensic laboratories and is starting to create role strain for some practitioners within the criminal justice system. For example, as prosecutors are now trying to meet, what they perceive to be, new juror demands based on the *CSI Effect*, they are removing scientists from laboratories to testify on routine matters that would not normally warrant expert testimony. There is also added pressure on scientists, police, scene of crime officers and lawyers to produce reliable and conclusive forensic evidence from both victims and juries. In 2009 *CSI: Crime Scene Investigation* had an estimated worldwide audience of 73.8 million people (CBS Studios International 2010), and with spin-off series and similar shows continuing to grow in popularity, there does not appear to be any end in site for the *CSI Effect*. In response, what is needed is more education, and understanding of the realities of forensic science and how popular culture is impacting on criminal justice systems worldwide.

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