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Impact of the CSI Effect and Authority Bias on Juror Decisions

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Abstract

The recent increase in number of crime drama television shows raises the issue that these fictional portrayals may impact real proceedings in the justice system. This phenomenon has become known as the CSI effect. This includes the concept of authority bias, by which laypeople place higher value on information provided by those that they perceive to be in positions of authority. 289 college students completed a survey comparing their likelihood to match an unknown fingerprint to a suspect's, after actors portraying evidence technicians either confirm the match or provide no conclusion. Results showed no significant interaction between the confirmation condition and participants' likelihood to say that the fingerprints matched.

CSI Effect and Juror Decisions

Introduction

Since approximately 2003, criminal justice professionals and the mainstream media have reported changes in public behavior regarding legal matters, purportedly due to increased viewing of forensic television programs. This phenomenon has been deemed the 'CSI-effect', after the CBS television series *CSI: Crime Scene Investigation,* and can manifest in a number of different ways. Researchers have hypothesized that potential jurors may develop unrealistic expectations about the availability of forensic evidence to prosecutors and demand that it is presented in every case, refusing to convict if it is absent. This is problematic because, contrary to the common presentation in media, processing of forensic evidence like DNA or fingerprints is time consuming, expensive, and often tedious. There is, however, some controversy within literature on the CSI effect. Some researchers have posited that jurors may become overly reliant on forensic evidence and automatically render a guilty verdict if such evidence is presented. Since lab-based television shows often portray non-forensic evidence as flimsy, unreliable, and less valuable, jurors may fail to account for eyewitness testimony or circumstantial evidence.

However, the literature regarding the CSI-effect reflects little to no direct effects of crime television viewing on trial verdicts in either direction (Holmgren & Fordham 2011; Kim, Barak, & Shelton 2009; Shelton, Kim, & Barak 2006). Participants who regularly watched crime drama television programs were no more likely to convict or acquit defendants when controlling for variables other than television viewing habits. Some studies do support an indirect effect on expectation of evidence; that is, individuals who are frequent viewers of crime television programs expect prosecutors to present hard forensic evidence and are more skeptical in cases

where only circumstantial evidence is present, resulting in a lower likelihood of conviction from those individuals (Kim, Barak, & Shelton 2009).

The main body of research on the CSI-effect has focused on how often individuals watch crime television programs. Recently however, researchers have begun to explore the extent to which participants believe crime television shows accurately portray the legal system. This concept has been termed perceived realism. Ewanation, Yamamoto, Monnink, Maeder, and Mccartan (2017) found that mock jurors with a higher level of perceived realism were more likely to return a guilty verdict when presented with DNA, fingerprint, or eyewitness evidence than their counterparts with low perceived realism. In other words, participants who believed in the authenticity of crime shows appeared to assign a greater value to forensic evidence.

Other studies on perceived realism have also reported that attitude toward certain types of evidence, namely DNA and eyewitness evidence, had an indirect effect on verdict rendered (Maeder & Corbett, 2015). This tracks, as DNA and eyewitness evidence are two of the most commonly presented types of evidence on crime dramas and therefore are likely to be prominent in the minds of individuals who watch those shows. Maeder and Corbett (2015) found opposite effects for DNA and eyewitness evidence. Participants with positive attitudes toward DNA evidence were more confident that the defendant was guilty, while those who reported the eyewitness testimony as more influential were less certain.

Collectively, literature regarding the CSI-effect has focused on the types of evidence and how they are portrayed on crime television programs. The studies have ultimately supported that crime television dramas have an indirect effect on how viewers perceive evidence in a real court. Something that has been absent from previous studies is examination of authority bias. This is the concept that people place greater emphasis on information if it is provided to them by a

source that they perceive as ‘expert’. It is often employed in commercial advertising, such as when actors dressed as doctors promote various medications or treatments.

One of the most famous examples of authority bias is the shock experiment conducted by Stanley Milgram. In this experiment, participants were ordered by the ‘experimenter’ – a confederate to the actual researcher - to administer increasingly painful shocks to the ‘subject’ – another confederate – each time they incorrectly answered a test item. If participants objected to administering the shock, the ‘experimenter’ directed them that ‘the experiment requires that [they] continue’. Even when faced with objections and declarations of pain and suffering from the ‘subject’, the majority of participants continued to administer shocks up to a potentially lethal level (Milgram 1965). Although the Milgram study is typically used to explain compliance with authority, such as the case of the Nazis and the Third Reich, it can also be interpreted as a representation of how authority can implicitly bias decisions. The individuals in the study disregarded their own judgment of how they should act when given directly contradictory instructions from a perceived authority figure. This disregard could easily generalize to other scenarios, where given a strong opinion or directive from a perceived authority figure, individuals may override their own judgment.

Another experiment that demonstrated authority bias was the infamous Stanford Prison Experiment (SPE). 24 college students were randomly assigned the role of either prisoner or guard and lived out a prison simulation for six days. During the course of the experiment, those who were prisoners came to view themselves as less than those who were guards, even knowing that they were all equals in terms of social status. The ‘prisoners’ complied with the ‘guards’, even in situations that could lead to harm for themselves or their fellow prisoners. The prisoners even directed their anger toward fellow prisoners, rather than the guards, when arbitrary rules

were imposed on their environment, perceiving that anger toward the guards would serve no purpose, as they had absolute control over the 'prison' (Zimbardo, Haney, Banks, & Jaffe 1971). Building on what Milgram (1965)'s study demonstrated, the SPE showed that individuals will comply with authority figures even when they know that the so-called authority figures are their social equals. This is relevant in context of the CSI-effect because potential jurors' bias toward forensic evidence stems from input that originated on-screen, presented by actors who are, in terms of forensic science, no smarter than the average person.

Authority bias is relevant in the context of the CSI-effect because the individuals who are portraying crime scene technicians on screen are actors. All of their "scientific knowledge" comes from a script, and has no obligation to be factual, valid, or reliable. Although in a real court scenario the evidence is being presented by actual experts who have been vetted by the court, jurors may be predisposed to believe those experts regardless of the quality of evidence based on a preconceived notion derived from fictional crime dramas. The content that makes the best television program may include pseudoscience, concepts with no empirical support, or even content that has been completely invented by the script writer. Take, for instance, the television show *Criminal Minds*. The entire premise of the show revolves around the creation of psychological profiles by highly qualified FBI agents. In reality though, psychological profiling has been the subject of very few empirical studies and has mixed, controversial findings within the psychological community (Snook, Cullen, Bennell, Taylor, & Gendreau 2008).

It is necessary, however, for the success of crime dramas, to portray the characters as experts in their given field, otherwise the narrative being put forth would not be as captivating. Unfortunately, if a viewer perceives the realism of these shows to be high, they may interpret the label of 'expert' to mean that information put forth would be viable in real legal scenarios. If that

information is then presented in a court of law, individuals may assign greater value to it, even in the face of contradictory or invalidating evidence, because they saw it presented by an 'expert' on a television show. Although there are legal protections against non-credible testimony, even credible testimony needs to be critically analyzed and considered in the context of the entire case and non-forensic evidence as well. The risk presented by the CSI-effect is that jurors will give greater weight to evidence that was successfully used in a fictional narrative without fully considering the entire case.

In addition to perceived realism, a number of demographic factors have been shown to impact juror decisions, among them gender, age, and race. Mock jurors return higher guilty verdicts when the defendant is male versus female and male defendants tend to be stereotyped as more likely to have committed a sexual offense (Pozzula, Dempsey, Maeder, Allen 2010). Older defendants (regardless of gender) were perceived as more responsible for their crime than younger defendants (Pozzula, Dempsey, Maeder, Allen 2010).

There are inconsistent findings in the existing literature regarding the impact of defendant race on verdicts. Studies in this area have almost exclusively focused on white mock jurors' perception of black defendants, presumably as a function of the history of race in the United States legal system. Of these studies, some have found no consistent effect of defendant race on mock jurors (McGuire & Bermant 1977, Skolnick & Shaw 1997), while others show that white mock jurors are actually harsher on in-group defendants (McGowen & King 1982, Poulson 1990). However, a large number of studies have also concluded that white jurors judge out-group defendants more harshly (Desantts & Kayson 1997, Hymes, Leinart, Rowe, & Rogers 1993, Klein & Creech 1982). These mixed results may be due to the fact that race interacts with other complex variables such as judgement of guilt (Sommers 2007).

The effect of defendant race has also been shown to vary based on jurors' personality type. In a study that classified mock jurors as either authoritarian, anti-authoritarian, or egalitarian, high authoritarianism was associated with harsher judgements of in-group defendants versus out-group defendants (McGowen and King 1982). Additionally, Kemmelmeier (2005) examined the interaction of race and social dominance orientation, which is the preference for rigid hierarchy that ranks some groups as inferior to others. The study found that high social dominance whites rendered harsher judgements on black defendants.

Despite this large body of research regarding race and implicit attitudes, few studies have examined explicit racial attitudes of whites and how those attitudes affect judgements of black defendants. Some factors that have been studied and shown to increase white jurors' harshness on black defendants include the knowledge that there was inadmissible, possibly incriminating evidence, inflammatory pretrial publicity, the absence of racially charged issues at trial, blue-collar versus white-collar employment, and the presence of ambiguous evidence at trial (Sommers 2007). As with social interactions outside of the justice system, research suggests that white jurors are motivated by society to avoid appearing racially biased and are more likely to be influenced by race when other factors are present that they can use to justify their decisions to their peers (Sommers 2007).

Another area that lacks representation in the CSI-effect literature is video priming. This is interesting, given that one of the elements that the theory is based on is television shows. Schreibman, Whalen, and Stahmer (2000) defined priming as a "way to manipulate antecedent events, or set up establishing operations" (3). In video priming, a video or clip is the content that is used as a manipulator. Video priming has been shown to effectively ease transitions between events for children with autism (Schreibman, Whalen, & Stahmer 2000). Additionally, a 2013

study found that when participants watched a priming video they were more likely than a non-primed control group to mention keywords from the video in a subsequent virtual reality interaction (Qu, Brinkman, Wiggers, & Heynderickx 2013). It is reasonable to extrapolate from these results that video priming can impact decisions, be it the positive impact of the former study, the neutral impact of the latter study, or the negative impact of the present study.

It is important to examine potential impacts of the CSI effect, as the issue of justice should always be under scrutiny. Removal of a person's autonomy and freedom is one of the more serious decisions a society makes and if it is being influenced by something as superficial as a television show - particularly if that television show is inaccurate, exaggerated, or overzealous in its portrayal of the legal system - it is important to identify specific issues and correct them.

The present study will identify whether authority bias from crime television dramas has an effect on potential jurors' later decision making. Furthermore, this study will examine the effect of video priming on participants' decision making, since prior survey-based studies have provided written descriptions only. As these factors have been largely absent from discourse on the CSI-effect, the study will expand the current body of knowledge about that topic. It will allow for a more in-depth conversation about how crime television may impact real legal proceedings. Since previous research has primarily identified indirect effects between television habits and perceptions and verdicts rendered, it is important to examine all potentially impactful aspects of television shows to obtain a holistic picture of this issue. Aside from extending the academic knowledge base on the CSI-effect, the present study can also practically apply its results to ensure the best application of justice possible and the protection of citizens' civil rights.

Methods

Participants

425 total responses were recorded. The original form of the study received 45 responses. After the first modification, 326 responses were recorded. The final modification of the survey received 54 responses. Some responses were excluded from the final analyses for a number of reasons, including denial of consent, incomplete responses, and failure of an attention validation question. After these exclusions, 289 responses were determined to be fit for analysis, 45 from the original study, 203 from the first modification, and 41 from the second modification. Aside from these qualifiers, participants were limited by their US jury eligibility, which includes being eighteen years of age or older, never having been convicted of a felony, and residency of the United States. However, although this information was listed in the survey description as a restriction to participation, no question was included to prevent participants who did not meet those criteria from completing the survey.

Of the 289 participants, 227 identified as female, 57 identified as male, and 5 did not identify with a binary gender. 169 participants fell between the ages of 18 – 19, 67 fell between the ages of 20 – 21, 38 fell between the ages of 22 – 30, and 12 were aged 30 years or older. 3 participants elected not to report their age. In regard to their criminal television show viewing habits, 223 participants reported that they viewed at least one of six given crime shows (including an 'other' text-entry option) often, and 217 participants reported that they viewed the same shows always. On a measure of perceived realism, scores ranged from zero to ninety-five out of one hundred, with an average score of 46.14 (SD = 18.76). All participants were recruited via the Central Washington University SONA system, which is open for participation to CWU students. Students who were enrolled in a psychology course at the time that they completed the study received course credit for their participation.

Materials

The survey tool used was based in Qualtrics and used a combination of Likert scales and confidence level sliders as question response measures. Other materials included two video clips from the television series *CSI: Crime Scene Investigation*, season 7, episode 11, "Leaving Las Vegas", six different suspect reports which depicted either a white male or female and a corresponding fingerprint, and three pairs of fingerprints acquired from previous studies and a Google image search.

Procedure

Participants read a basic scenario regarding a crime and a piece of forensic evidence (a bloody fingerprint). Random assignment selected either a neutral scenario or an explicitly violent scenario to present. Participants were then presented with a document that portrayed the suspect as either male or female in one of three ethnicities (Caucasian, African American, Asian). They then viewed a short video clip (less than two minutes) from an episode of *CSI: Crime Scene Investigation* that showed a crime scene technician processing the print. For approximately half of the participants, the clip ended once the processing had finished; for the other half, the clip continued for a few more seconds and played a scene where the crime scene technician discussed the matching results with a coworker.

Participants were then presented with an image of two fingerprints and told that they represent the actual print that was analyzed, as well as the one to which it was 'matched' in the experimental condition or one from the potential suspect in the control condition. There were three pairs of fingerprints, of which one was randomly selected to be presented to the participant. The first grouping contained two prints that were ambiguous in regard to whether or not they matched. The second group contained two prints that very obviously did not match. The final group contained two prints that very obviously did match. Participants were asked to express how confident they were that the prints matched using a continuous rating scale. This allowed

the researcher to examine whether the individuals who were preemptively exposed to the match showed higher levels of confidence than the others, even if their responses are semantically similar. Having the three separate pairs of fingerprints allowed the researcher to determine which participants were merely guessing, as those in the definite match and definite not match conditions should have presented responses that were significantly higher or lower (respectively) than participants in the ambiguous condition.

Results

The primary analysis conducted on the data was a Univariate Analysis of Variance comparing the video condition and participants' confidence rating of the fingerprint match. This was supplemented with correlate analyses of the other variables, including suspect gender, level of violence of the crime scene, evidence technician experience and influence, and perceived realism.

The ANOVA on the original sample (N=45) comparing the factors of video condition and confidence of a perceived match did not yield any significant results. R squared = .003 and p = .747. The ANOVA on the sample after the first modification (N=203) comparing the same factors also did not yield any significant results. R squared = .556 and p = .102. The final ANOVA after the second modification (N = 41) with the same factors also failed to yield significant results. R squared = .048 and p = .168.

A correlate analysis between the factors of gender and confidence of a perceived match yielded a p-value of .204. Correlate analysis between the factors of violence and confidence of a perceived match yielded a p-value of .200. A correlate analysis between the factors of evidence technician qualification and confidence of a perceived match yielded a p-value of .434. A correlate analysis between the factors of evidence technician influence and confidence of a

perceived match yielded a p-value of .021. All correlate analyses were conducted on the N = 41 sample collected after the second survey modification.

Three correlate analyses of the factors perceived realism and confidence of a perceived match conducted on the original, first modification, and second modification samples yielded p-values of .579, .315, and .441, respectively.

None of these results support the original hypothesis that individuals who watched the confirming video would be more likely to confirm a match and suspect guilt than those who watched the non-confirming video.

Discussion

For the most part, the results obtained in this study are consistent with previous literature on the CSI effect. However, they differ on two factors. The first is that this survey showed no correlation between participants' perceived realism and their confidence ratings. Secondly, the results showed no correlation between defendant gender and their confidence ratings. This could be due to a number of reasons, one being that the sample for analyzing effect of defendant gender was small. Additionally, the wording of the fingerprint match question did not explicitly state that a finding of a match would result in the conviction of the defendant. As such, participants may not have felt as much pressure as they might have in a real jury trial or a mock trial study. Furthermore, given that participants were asked to rate their perceived realism at the beginning of the study, they may have been primed to ignore any effect of the video and answer independently so as to not appear naïve or biased by television programming.

The results of this study did show a significant correlation between the influence of the evidence technician's analysis and participants' perceived confidence of a fingerprint match. This is congruent with the literature regarding authority bias, suggesting that if participants felt

that the analysis of the technician portrayed in the video significantly influenced their decision, it impacted their confidence rating. The conclusions that can be drawn from this finding are limited by the fact that it was only analyzed via a correlation method, which does not show directionality.

One of the main limitations of the current study concerns the population. A sample was drawn from college students only and the majority of participants were female. This represents a small portion of the jury-eligible population in the United States and consequently limits the generalizability of results. Furthermore, the data was obtained using a self-report survey method, which has been proved to have its own set of problems. Participants will lie to make themselves appear socially favorable; they may also not have accurate perceptions of themselves on the factors that were being reported and measured, which can skew the results. A final limitation is that the survey collection method does not replicate the pressures and stress of a courtroom setting. Trials are often unfamiliar environments for jury members and they are concerned about what is happening outside of the court and whether or not they will be able to render the 'right' verdict. These pressures can affect decision making capabilities in a way that is not present when responding to a survey from the comfort of home.

Future research on this topic should be presented in a mock trial format, to partially recreate the environmental pressures previously described. The fingerprint match question (or equivalent) should explicitly state the consequences for the defendant as a result of the participant's responses. Although this would not occur in a real court scenario, the implications about consequences are far more salient when serving on a jury than when taking a survey online. Defendant race, as well as victim and participant race and gender should be examined as factors, as should juror education level. Due to the small sample used to analyze some of the

mitigating factors besides video condition, it might be useful to repeat this study with a larger sample size, or sample that is more representative of the population, to see if significant results are generated.

A lack of significant results is by no mean a failure – in the case of this study, it suggests that there might be less bias present in the jury-eligible population than previously thought. These findings allow future research to move beyond these basic questions, examine additional potential biases, and get to the bottom of what measures are needed to remove bias from the justice system as much as possible.

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