

Effects of Media Portrayal on Mock Jurors' Use of Deceptive Polygraph Evidence

Chelsea Lyle, Josh Karr, and Ron A. Craig

Edinboro University of Pennsylvania

Abstract

The use of polygraph evidence in a trial has been controversial, with one concern being its prejudicial impact on jurors. While earlier research has found limited influence of polygraph testimony on jurors, its increased presence in popular culture may impact its weight in juror decision-making. Further, the type of media portrayals of the polygraph, on civil/domestic disagreements (e.g. *The Maury Povich Show*) versus criminal (e.g. *Law and Order*), may limit its effect to the types of cases portrayed most often. The current study examines mock jurors' decisions based on the presence of deceptive polygraph results and the severity of the allegation. Participants in an online survey were asked to read a hypothetical court case, assign guilt or innocence, and rate confidence in that decision. The case involved either a DUI, driving while using drugs, vehicular homicide, or divorce and the presence of deceptive polygraph evidence was varied for each. Participants were also asked questions about their views of and media exposure to the polygraph. There was a significant impact of polygraph evidence for the divorce case only. The presence of a deceptive polygraph did facilitate confidence in guilty verdicts regardless of the case type.

Keywords: polygraph, media portrayal, mock juror, evidence

Physiological detection of deception, commonly called the polygraph, has become a common plot point for many popular present day television programs. Through these shows viewers are exposed to fictional portrayals of the criminal justice system's use of the polygraph (e.g. *Law and Order*) or to "real-life" portrayals identifying paternity or infidelity (e.g. *The Maury Povich Show*). These techniques are often simplified and sensationalized to keep the audience's attention and neatly wrap-up the case at the end of the hour. In the "real-life" portrayals, the validity of the test often goes unquestioned and the crowd often cheers or jeers with the

decision of the test. Given that these shows portray actual investigative techniques, it begs to ask the question: do these shows give viewers an unrealistic idea of how the criminal justice system truly uses these scientific methods in analyzing evidence? In addition, does the portrayal of these techniques alter perceptions of their use and effectiveness to the public? If this is so, it would be consistent with the impact of popular perceptions of the validity and use of other types of forensic evidence portrayed in popular media, resulting in what has been referred to as the "CSI effect." (Shelton, Kim & Barak, 2006).

Authors Note

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Correspondence concerning this article and requests for reprints should be addressed to Ron Craig Ph.D., Department of Psychology, Edinboro University of Pennsylvania, 210 E. Normal St., Edinboro, PA 16444. Office Number: 814-732-2532. E-mail: rcraig@edinboro.edu.

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Polygraph tests, while routinely used in the investigation of a crime, are rarely admitted in court (Honts & Perry, 1992). The primary arguments for this exclusion typically boil down to three critical issues: 1) polygraph evidence may infringe upon the purview of the “trier of fact” and as such not be considered expert testimony, 2) the potential accuracy of the polygraph in detecting deception, and 3) the potential effects polygraph evidence may have on jurors (Cavoukian & Heslegrave, 1980). However, several studies have shown that polygraph evidence has limited impact on jury decision-making (Myers, Latter, & Abdollahi-Arena, 2006)

In examining the potential impact of polygraph evidence on jurors, Myers, Latter, & Abdollahi-Arena, (2006), used a mock trial scenario with evidence of the suspect either passing or failing a polygraph test, or a no polygraph test condition. Results indicated that there were no significant differences in verdict between the three conditions. When participants were asked to indicate how influential the polygraph test evidence was in making their final verdict, there were no differences between the passed-polygraph condition and failed-polygraph condition. Participants in these groups rated the polygraph as being “not at all influential” or “somewhat influential.” Participants’ opinions of polygraphs tests were also gathered and it was found that most believed these tests to be a “useful diagnostic tool”; very few of the participants thought that these tests should be the “sole determinant” of a verdict or that they were “of no usefulness” in deciding the verdict in a trial.

Cavoukian and Heslegrave (1980), presented participants with a summary of a murder trial and then assigned them to one of three conditions: the “Basic” condition, with no polygraph evidence; the “Polygraph” condition, where a polygraph indicating the suspect was innocent was introduced; and the “Judge’s Caution” condition, where the innocent polygraph was coupled with a warning from the judge about the limitations of the polygraph test. Results indicated that when an innocent polygraph was present, jurors were more likely to perceive the accused as significantly less guilty in comparison to the no polygraph condition.

Furthermore, the presence of the judges warning did reduce the impact of the polygraph, though it still impacted decision-making.

In a study done by Markwart and Lynch (1979), mock jurors were presented with a case where the presence of polygraph testimony was manipulated with no polygraph, polygraph favorable to the accused, or polygraph unfavorable to the accused conditions. In addition to a summary of the case facts, jurors were provided a charge by the “judge,” summarizing the testimony and outlining legal considerations. There were two versions of the judge’s charge, one where the judge included a statement that polygraph results are not always reliable and tend to yield false positives. Finally, jurors were given a questionnaire asking about their opinions on the polygraph evidence. The presence of the polygraph evidence unfavorable to the accused had a significant impact on jurors’ decision-making compared to the no polygraph condition with guilty findings increasing from 12% to 66%. Also, the presence of the polygraph evidence favorable to the accused also resulted in a higher rate of guilty verdicts, increasing from 12% to 41%.

The majority of the research done on the impact of polygraph evidence on jurors has come from a time period where the polygraph, while a part of the popular media, was not as prevalent in the media today. From TV shows like *CSI: Crime Scene Investigation*, to movies like *Meet the Parents*, to talk shows like *The Maury Povich Show*, and even game shows like *To Tell the Truth* and *The Moment of Truth*, the polygraph has become a common part of our collective cultural experience. It has even been used to sell mufflers (DBD Chicago, 2004) or lower fares (US Airways, 2013). Thus, the attitudes about the polygraph may be different today due to the increased level of exposure to the procedure. Popular evidence of this includes advertisers’ feelings that polygraph evidence is a way to demonstrate or portray the “truthfulness” of their claims in selling products.

In addition to the prevalence of these media portrayals, the way in which the polygraph is often used, particularly in

programs like *The Maury Povich Show*, games shows, and in TV ads, are related to personal accusations instead of criminal ones. If, as Shelton, Kim & Barak (2006) propose, the way in which the media portray the use of investigative evidence impacts popular perceptions of that evidence, then the way the polygraph is used in these media presentations might result in differential perceptions of value. Having viewed the polygraph repeatedly used to test paternity could result in an increased perception of the value of the evidence for those types of cases.

Given the increased exposure of popular culture to the polygraph and its portrayal, prospective jurors may have more developed preconceptions on the instrument and its effectiveness, today. In addition, it is possible that the types of exposure to this test may limit the impact of this influence to situations or cases that are similar in nature to those they have been exposed to. Similarly, impacts of individuals who are more familiar with the criminal justice evidence through watching crime related shows have resulted unrealistically high expectations of its uses and has been termed the "CSI effect." The increasing demands of scientific evidence from jurors' correlates with their belief of how accurate these scientific techniques are portrayed in real life (Shelton, Kim, and Barak, 2006).

Shelton, Kim, and Barak (2006) surveyed individuals that were called in to serve jury duty. They questioned these individuals regarding their exposure to law related television, how accurate they felt the portrayals in shows were in regard to the criminal justice system, expectations about the type of evidence that should be presented in various types of cases, and finally, how likely they were to find a defendant guilty or not guilty based on certain types of evidence presented. The more frequently participants watched law-related programs the more accurate they portrayed these techniques to be. With a significant percentage believing scientific evidence needs to be present in every criminal case. Frequent CSI watchers had higher expectations for all kinds of evidence and had higher expectations about scientific evidence.

It is reasonable to expect that with the increased media portrayals of the polygraph something akin to the "CSI effect" might also impact perceptions of polygraph evidence. Prospective jurors may have more fully developed preconceptions of the effectiveness of the polygraph to detect deception, derived from their media exposure. Further, the types of media exposure (i.e. crime drama vs. talk show) may limit the impact of this influence to situations or cases that are similar in nature to those they have been exposed to.

The present study examines if there has been a shift in the impact of the polygraph on mock juror's decision making. In addition, it will look to see if there are differential impacts of the polygraph evidence based on the types of case the evidence is being presented in. Participants read a scenario where the severity a crime was manipulated in one of four ways: Divorce Case, DUI, Driving While Under the Influence of Drugs, or Vehicular Homicide. Another aspect we manipulated in this study was the presence of polygraph evidence (either no polygraph evidence or failed polygraph evidence). It was predicted that the presence of deceptive polygraph evidence would impact verdicts differently based on the type of case it is presented in and participants' confidence in their verdict. Further, there would be a relationship between media exposure to the polygraph and participants' verdicts and perceptions of the polygraph evidence.

Method

Participants

Participants were 151 undergraduate students who were recruited from a university in Western Pennsylvania. Of the 151 respondents, 17 incorrectly identified the presences or absence of polygraph testimony in their assigned conditions and were thus dropped from further analysis, leaving a total of 134 surveys. There were 53 males (39.6%), 75 females (56.0%), and 6 (4.5%) not responding with a mean age of participants of 19.946 (SD=3.82) ranging from 18 to 50 years of age. Three (2.2%) reporting having served on a jury and 4 (3%) reported having taken a polygraph before. Participants were recruited via email and received extra credit for their participation.

Materials

An anonymous online survey was developed and presented to participants via Limesurvey that began with an Informed Consent. Next, participants were randomly assigned to one of eight short hypothetical case scenarios, each involving different severity of allegations. The cases were: "Court of the People" divorce condition involving guests on a factious reality divorce court television show; "DUI" condition, involving an individual charged with driving while intoxicated; "Drugs" condition, where the defendant was charged with driving under the influence of narcotics; and a "Vehicular Homicide" condition, where the defendant was accused of causing an accident that resulted in a death of a pedestrian. Then for each type of case the presence of deceptive polygraph-evidence was varied resulting in both "No Polygraph" and "Deceptive Polygraph" conditions.

The case scenarios included a description of the case, evidence presented by the plaintiff/prosecution, and then the argument from the defense. In the criminal cases, the evidence presented by the prosecution was designed to be somewhat vague, an eyewitness claiming to have seen the vehicle crossing the centerline, the officer observing behavior consistent with the charges, and a breathalyzer/drug test that was thrown out because of technical difficulties with the test. In the civil/divorce case there was evidence presented by the plaintiff (wife) but was refuted by the defendant (husband). In all the scenarios the defense offered a creditable counter argument to the allegations but did not present evidence. The scenarios were pilot tested to fine tune the ambiguity of the evidence to prevent either a ceiling or floor effect for guilt.

For each case type the scenarios were identical except for the presence of the polygraph. In the polygraph condition participants were told:

"The defendant was offered the opportunity to take a polygraph test regarding the (accusation), and whatever the result it would be allowed into the trial. The polygraph test asked numerous questions about (the

allegations). The official results of the polygraph test indicate the defendant answered the questions about (accusation) deceptively."

Following the scenarios participants were asked if "given the evidence presented" they felt the defendant was guilty, confidence in their verdict, and the impact of officers/plaintiff's testimony and (if present) the polygraph evidence on their verdicts. They were then asked questions about their views of the polygraph, a series of questions including types of media exposure they have had to the polygraph, four questions to assess authoritarianism, as well as demographic information.

Design and Procedure

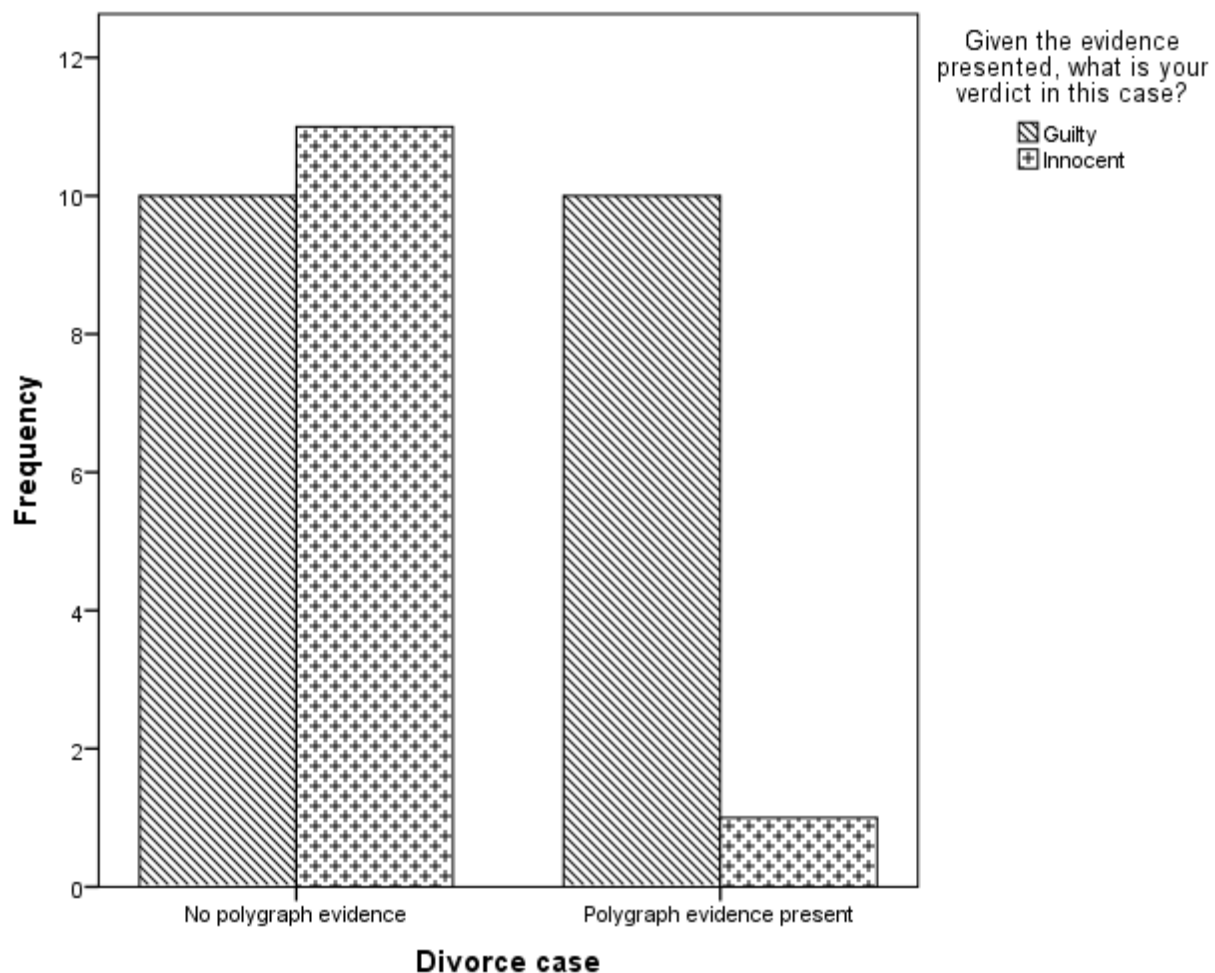
Participants were recruited via an email sent to their entire class that included a short description of the project and a hyperlink to the survey and alternate assignment. Since the survey was online, participants completed it on any available computer with an Internet connection at a time of their choosing. After clicking the provided hyperlink, participants read the informed consent and clicked a box to agree to participate. An alternate exercise was provided for those who wanted to earn the extra credit but not participate. Upon agreeing to participate, participants were randomly assigned to one of the eight scenarios and instructed to read through the short paragraph and answer the questions that followed.

Results

Case Type and Polygraph Testimony

In order to determine if there was an effect present, a chi square analysis was done for each of the four cases comparing the presence/absence of the polygraph test and the verdict. For the DUI, driving under the influence of narcotics and the vehicular homicide cases there were no significant differences in verdict between the two conditions. For the divorce case there was a significant impact found of the polygraph testimony on verdict ($\chi^2(1) = 5.772$, $p < .05$). With 47.6% guilty in the no-polygraph condition and 90.9 % guilty in the polygraph condition as indicated in Figure 1.

Figure 1. Frequencies of mock jurors' verdicts in the divorce case scenario by presence of polygraph evidence

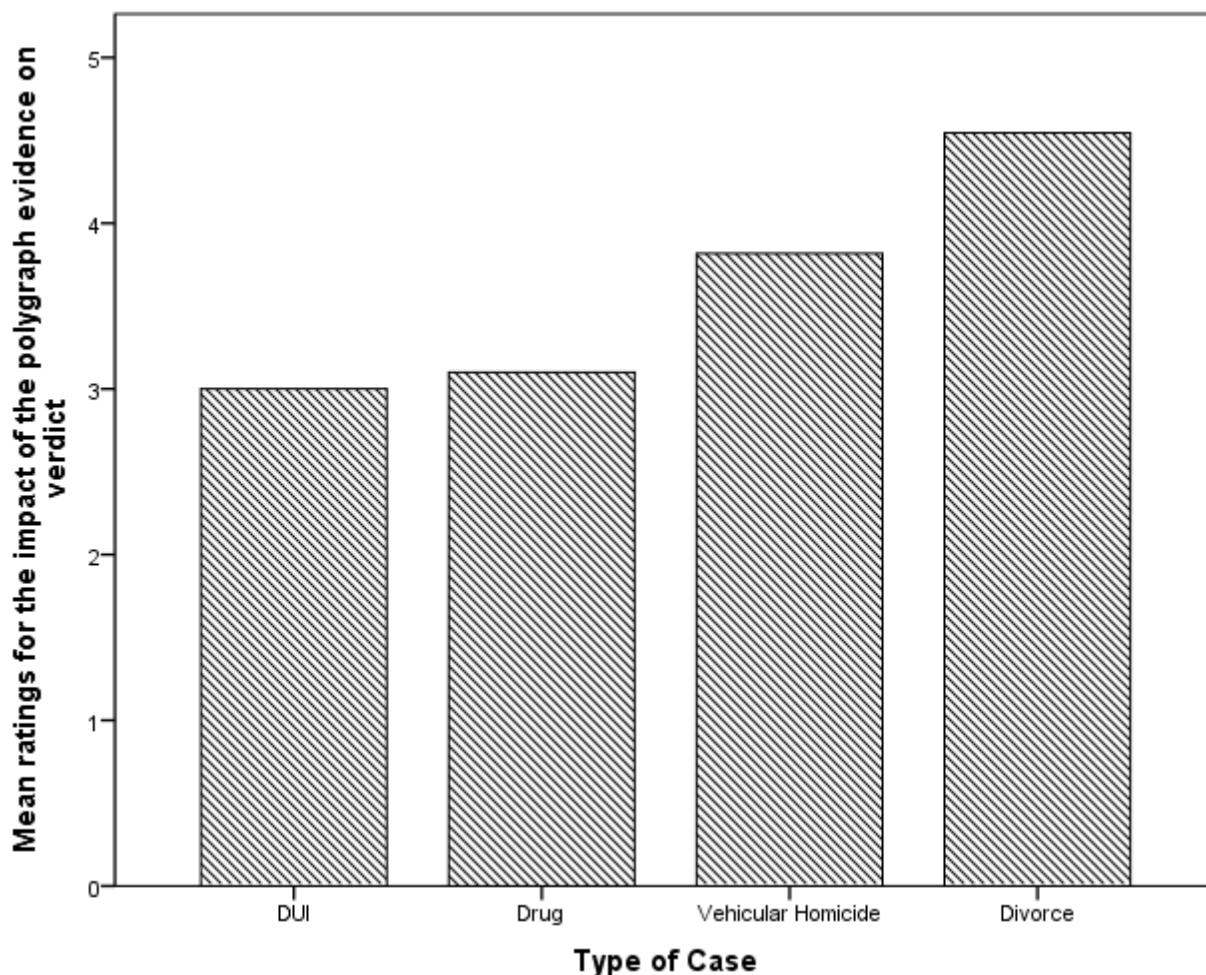


Verdicts and Verdict Confidence

Across all cases, those who voted guilty were more confident (on a five point scale) in their verdicts when deceptive polygraph evidence was present ($M = 4.10$) than when it was not ($M = 3.27$), ($U = 196$, $z = -2.368$, $p < .05$). Though this may have been due to simply the presence of some additional evidence in an ambiguous case, but the polygraph did not alter rates of guilty verdicts except in the divorce condition.

A Kruskal-Wallis test indicated a significant difference across cases in how much participants reported the polygraph evidence had impacted their verdict ($H(3) = 17.183$, $p < .05$). On a five-point scale, participants reported the greatest impact in the Divorce condition ($M = 4.55$) and least in the DUI case (3.00) as shown in Figure 2. This impact appeared to be most pronounced in the DUI and Divorce cases but limited sample size (some cells had only 2 scores) precluded further fine-grained analysis.

Figure 2. Mean ratings for the impact of polygraph evidence on verdict by case type (higher scores reflect greater reported impact)



Authoritarian Perspectives and Media Exposure

Using Spearman's rho, there was a significant correlation found between authoritarian beliefs and verdict ($r = -.323$, $p < .05$), with those who were more authoritarian voting guilty. There was also a correlation with authoritarian beliefs and the impact of the polygraph on verdict ($r = .426$, $p < .05$), with those who were more authoritarian being impacted the most by the deceptive polygraph.

When asked the types of media they had seen polygraph tests portrayed in, three of the programs we identified were common: 54.5% had seen it on *Law and Order*, 47.2% on *Maury*, and 43.1% on *CSI*. In addition, 46.3% reported having seen the polygraph in

media other than those programs listed. The number of shows the participant reported seeing the polygraph was summed to produced a metric of media exposure to the polygraph which was used to determine correlations. Spearman's rho revealed no correlation between media exposure and verdict; however, it was significantly correlated with how much participants reported the polygraph evidence had impacted their verdict ($r = .327$, $p < .05$).

Discussion

The presence of deceptive polygraph evidence did impact verdicts differently for the Divorce Case only. One explanation for the impact in only this case type could be that

many of the programs where the polygraph is playing a dominant role involve less serious and personal accusations. These are also programs where the test is touted as the ultimate decider of guilt. This fits within the “CSI effect” model, in that the context under which the evidence has been presented via media exposure then impacts its salience in the verdicts. However, a second explanation for this finding could be that more severe offenses are taken more seriously and that the polygraph is not viewed as valid enough to sway their decisions. Though the polygraph evidence did facilitate confidence in guilty verdicts across case type; indicating that, at least for those voting guilty, the test was a useful piece of evidence if for nothing more than validating their opinion.

There was a significant relationship between media exposure and the impact of the polygraph evidence, in that more exposure to crime shows and shows containing polygraph

evidence did have an influence on our participants’ verdicts. This finding is consistent with the “CSI Effect” and displays that the growing media exposure of this type of evidence may be affecting public opinions of it. In addition, the correlation between authoritarianism and weight given the deceptive polygraph (one that pointed towards the guilt of the defendant) may reflect a willingness to give greater weight to evidence supporting their predisposed view, since authoritarianism also correlated with guilty verdicts.

Limitations of this study include a small sample size, presence of only deceptive polygraph evidence, individual instead of group verdicts, and the presentation of the case material in a written format. Given the chance to expand on this research with future studies, we would also take a look at how the manipulation of truthful polygraph evidence impacts juror verdicts.

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