

Facilitating Deception Detection Through the Strategic Use of Evidence

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Abstract:

The Strategic Use of Evidence (SUE) technique is an interrogation technique that uses previously collected evidence to get more information about the crime or find out if the suspect is actually truthful or deceitful. Using the evidence, interrogators ask about the crime scene and listen to a suspect's response. Afterwards, they show the evidence to the suspect and the suspect's story is compared to the evidence to determine what actually happened. This is beneficial to finding out more about the story and whether the suspect is guilty or not. System Evidence Consistency is an interrogation principle that compares how close the story is to the actual evidence. If the evidence is consistent with the story, then the suspect is most likely truthful while if the story is inconsistent with the evidence, they are most likely being deceitful.

Our experiment was designed to determine the effectiveness of the SUE technique. Mock interrogation videos were used with self-selected participants, who watched the videos and then judged whether the suspects are innocent or guilty. Some people were first given instructions on how to use System Evidence Consistency with the Strategic Use of Evidence technique while others were not specific interrogation instructions. The results showed a better accuracy rate in judging guilt or innocence in people who received the SUE instructions compared to people who did not. However, the accuracy rate of participants given SUE instructions was uniform with the known accuracy rate of 54% seen from other studies. This research could ultimately assist in improving the criminal justice system to make sure innocent people are not incarcerated and guilty people are punished with minimal mistakes.

Introduction and Review of Literature:

The Strategic Use of Evidence Technique (SUE) is a form of forensic science. It falls under the category of lie detection. Lie detection can use many methods including interrogation. Interrogation is very difficult to use because it deals with the psychology of people and everyone has a different mentality. Because of this, interrogation requires many techniques. One of those techniques is the Strategic Use of Evidence (SUE). The Strategic Use of Evidence technique requires the interrogator disclosing some form of evidence that they have about the suspect, to the suspect and using it to obtain more information on a certain crime that they were involved in. The interrogator has different procedures of doing this and after they get a response they have to analyze the information to see what it means and how it can be used in order to delve deeper into the crime.

In order to fully understand the Strategic Use of Evidence Technique, one must understand the basis of forensic science and how this technique applies to this study. Forensic science is the science of crimes and it helps by finding out information about the crime to then find out more details. Forensic science does this by obtaining evidence. This evidence can fall under four different categories. The first category is biological. This evidence has to do with things from the body such as hair, blood, and semen. The next category is chemical evidence which deals with drugs, explosives or other chemicals. Physical evidence consists of footprints, fingerprints or other marks made from a person. The fourth category is miscellaneous. This can include anything else that is not in the other four categories including evidence gathered from interrogations. Lie detection falls under the miscellaneous category. (9)

Lie detection is a forensic science technique to determine if someone is giving false statements or information. There are many different techniques involved in lie detection as well as many different clues that are expected. Many people think that non-verbal clue such as eye movements or fidgeting are correlated with lying (12), but that is in fact untrue and can lead to false confessions (11). Most of the best clues are

verbal. Most of the lie detection methods use the demeanor of the suspect to analyze their response; this is called mind reading (2). The behavior of a person is very important because it allows lie detectors to ask specific questions that work well with that type of behavior. Another clue looked at is the motivation to lie. This is used when the liar has a lot of pressure on them to lie. Then their lie is very unnatural and can be easier to spot. Another one is the confidence of the person. If the person has a low confidence about the lie they want to express, they tend to give out more clues of whether they are lying or not which can be very helpful. (4)

One of the methods in lie detection is interrogation. Interrogation is questioning of a suspect in order to extract the truth or further information about a crime. It consists of two steps: pre-Interrogation and the actual interrogation (7). The pre-interrogation involves questions that do not have to do with the crime. The response to these questions help to determine the natural behavior of the suspect which then allows for planning of the actual interrogation. The actual interrogation strategically uses what is found out in the pre-interrogation and implements them into questions about the crime. These questions will help to gather additional information about the crime. One study researched interrogation and found that the accuracy rate of interrogation tends to be around 54% (1). This number is just above a one-half chance of getting the judgment correct.

The Strategic Use of Evidence Technique is a technique that applies evidence gathered already about the suspect and discloses it or strategically uses it to extract further information about the crime (3). The evidence can be disclosed at the end of the interrogation which has proven to be the best strategy according to Sorochinski et al 2013. After the suspect tells his story, the evidence is disclosed and the system evidence consistency helps to see if the story was a lie or not. System evidence consistency is how well the story of the suspect correlated with the evidence. An innocent person would have a constant system evidence consistency because their story would be correlated

with the evidence unlike a guilty person where the story would most likely be different from the evidence. That is one way to strategically use evidence, there are many other ways to use the evidence in order to extract information (6,10). The reason for this research is to find out what the effectiveness of the strategic use of evidence is. If the effectiveness is high, it could help improve interrogation as a whole.

Research Question: What is the effectiveness of the Strategic Use of Evidence technique?

Hypothesis: Participants who gain information on the Strategic Use of Evidence Technique and Statement-Evidence Inconsistencies will be more accurate than those who received no instructions.

Methods:

This experiment was designed in order to effectively determine the differences between participants who judge interrogation without any knowledge of how to use the Strategic Use of Evidence technique and participants who do have knowledge about the technique. A survey was posted online on a website called MTurk for random participants, who used this website, to take. The participants take the and watch a video on a mock interrogation and determine whether the suspect is guilty or not. The video showed an interrogator using the Strategic Use of Evidence technique on suspects. Some of the participants were given instructions on what the Strategic Use of Evidence technique was (Figure 1.1). Therefore, the participants who knew about Strategic Use of Evidence were using that technique to complete the survey while the participants who were not taught the Strategic Use of Evidence technique were using their own judgment. This would show

General Instructions (given to all participants):

This is a survey which involves you, the participant, to watch a series of videos which consist of mock interrogations. You will then be asked multiple questions about whether you think the suspect in the video is lying or telling the truth and how you came about this conclusion. Please note that the interrogator is reading from a script and some clips in the videos may seem unusual.

Brief Instructions:

You are going to watch a video of a simulated police interview.

In the interview, the interrogator will possess evidence that suggests that the suspect may be guilty of the crime. The suspect may or may not be guilty of the crime in question.

An innocent suspect's story will be more prone to match the evidence, whereas a guilty suspect's story will not match as well with the evidence.

Detailed instructions:

You are going to watch a video of a simulated police interview.

In the interview, the interrogator will possess evidence that suggests that the suspect may be guilty of the crime. The suspect may or may not be guilty of the crime in question.

Generally, an innocent suspect's story will be more prone to match the evidence, whereas a guilty suspect's story will not match as well with the evidence.

During the interrogation, the interrogator will disclose the evidence to the suspect either early in the interview or towards the end of the interview.

An innocent person will most likely say everything they know, regardless of when the evidence is presented to them. No matter if the evidence is given to them early in the interrogation or later, innocent suspects generally provide a story that is consistent with the evidence.

A guilty suspect's story may vary depending on when the evidence is presented. A guilty suspect's story may be more consistent with the evidence if it is presented to them early in the interview, since they can plan their response to account for the evidence. However, if a guilty suspect is presented evidence later in the interview, they are more likely to contradict the evidence.

What Not to Do Instructions:

When trying to determine if the suspect is lying or telling the truth, it is not useful to look for body language such as facial expressions, eye contact or fidgeting. If the suspect seems nervous, that is also not a sign they are lying. Please do not base your answer on facial expressions, eye contact, or fidgeting because those are not clues to deception but instead show how nervous the suspect is.

Figure 1.1: Instructions given to the participants.

survey
try and

the difference between people with no knowledge of SUE and people with knowledge of it.

Qualtrix was used to create the survey and MTurk was used to publish the survey and make it available for participants. Qualtrix is a program that allows for variables to be placed into the survey layout. We had four different variables. The videos were either innocent or guilty suspects and either early disclosure or late disclosure. This means the evidence was either presented at the beginning or at the end.

The instructions were also varied. There were two different types of instructions. There were negative and positive instructions (Figure 1.1). The positive instructions (the Strategic Use of Evidence Technique Instructions) were only given to some people as well as the negative instructions (these were instructions explaining not to use body language.) After the participants read the instructions, they were quizzed on it. This quiz determined whether or not they had read and understood what the Strategic Use of Evidence Technique is and why they should not use body language. The quiz was used to show which people really had an understanding in the technique. In order for the participants to take the survey, they were given one dollar each for completing the survey. MTurk allows for money to be given to participants taking the survey.

The survey was designed in a way so every participant received the same layout. First the participant is given general instructions (Figure 1.1). These just tell them what they are supposed to do and they have to agree to an informed consent in order to participate. After that, participants who receive instructions will have to read whichever instructions they were randomly assigned. After that, they receive their respective quizzes on which instructions they got. They then watch one video and answer three questions. Those questions ask whether or not the participants think the suspect is guilty, how confident they are and how they came upon their judgment. After the results came back with 403 people, the analysis began. Most of the people who participated were Caucasian and a few African Americans, Hispanics and Asians were there as well.

The minimum age requirement was 18 years old however, most of the people were in their late thirties and early forties.

Results and Discussion:

Descriptives

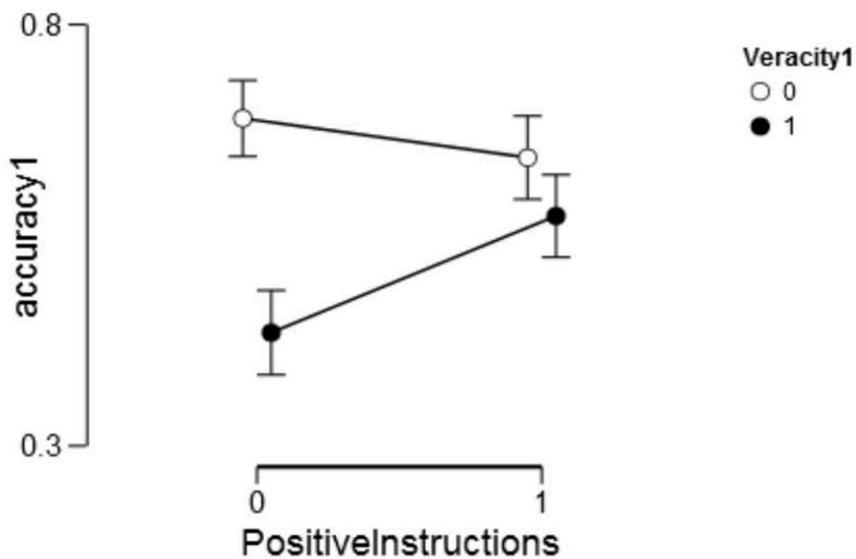
Descriptives - accuracy1

| PositiveInstructions | Veracity1 | Mean | SD | N |
|----------------------|-----------|-------|-------|-----|
| 0 | 0 | 0.689 | 0.465 | 106 |
| | 1 | 0.434 | 0.498 | 99 |
| 1 | 0 | 0.642 | 0.482 | 95 |
| | 1 | 0.573 | 0.497 | 103 |

Accuracy Chart: Positive Instructions were distributed randomly and consisted of instructions on how to use the SUE technique

This chart (above) shows the accuracy of the participants during different variables. Veracity is whether or not the person in the video was lying or not. The instructions are what tell the participant what to do and how to use the Strategic Use of Evidence technique. The mean is the percentage of accuracy. As show the innocent suspects had an accuracy rate from the participants of about 69% and it fell slightly to 64% when the participants were given the instructions which is not a big drop value. However, when the guilty suspects are looked at, the instructions raised the accuracy rate from 43% to 57%. That is a massive increase because now more than half of the guilty people would have been convicted.

Descriptives Plot



Accuracy Graph: shows accuracy in relation to the positive instructions

This graph shows the data portrayed in the other chart. As shown, the innocent suspect accuracy did not have a major change, however, the guilty accuracy was a big change. This shows that the Strategic Use of Evidence technique improves accuracy in people who are taught on how to use it. Obviously, this showed that the accuracy rate was still not perfect but it was an improvement. Unfortunately, this experiment showed that the Strategic Use of Evidence technique improved the participants accuracy to 57% which is close to the 54% measured by Bond et. al. 2008. This could also be viewed as the Strategic Use of Evidence technique not having any effect on interrogation. However, it was beneficial to people who did not know how to use it.

The data drawn from this experiment demonstrates that the Strategic Use of Evidence technique does improve the accuracy rate when convicting guilty people, however, it does benefit when taught to people who do not have much of a background in interrogation. This could still be helpful because it does not decrease the effectiveness of interrogation and beneficial information can be extrapolated using this technique.

The standard deviation also shows that there was a lot of variability in the data. This could be because all people are different in their interrogation techniques. Some people are better at judgment than others. Interrogation is not a process where everything can be replicated due to the fact that people are the ones making judgments and they have to use their own intellect when making the choice between innocent and guilty.

As shown above, the instructions only explain what the Strategic Use of Evidence Technique is. This was enough to make the accuracy raise by fourteen percent. This could be improved on by having interrogators take a class on the Strategic Use of Evidence technique. Doing this could raise the accuracy even further.

Conclusion:

Our research showed that the Strategic Use of Evidence Technique was beneficial to participants that were not aware of the technique. This means that the accuracy rate increased when they were given the instructions. However, the technique would most likely be beneficial to interrogators if they were taught it and then used the technique. One limitation was that we were not allowed to interrogate people ourselves using the technique which would have given much better result because they are real interrogations. Our hypothesis was accepted with the data found. Future research should include the real interrogations and comparisons to other techniques. This would show which technique is the most accurate when interrogating. The data collected from these experiments including this one will help make sure that the right people are prosecuted and punished for their crimes while still making sure that innocent people are not.

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