STRATEGIES *In Brief*

AEQUITAS

Issue #32 • April 2019

Truth-Detection Devices and Victims of Sexual Violence: A Shortcut to Injustice

Jonathan Kurland, J.D.

Wonder Woman wrapping her "lasso of truth" around a villain to compel veracity is an iconic and compelling representation in popular culture of an infallible technique for determining the truth in order to achieve justice. The lasso's directness and results have obvious attraction to criminal justice professionals who must often sift through conflicting and incomplete accounts to learn what happened in a crime. An overreliance on truth-detection devices and misunderstandings about the dynamics of sexual violence can correlate with a belief that their use with victims of sexual violence is the best method to conduct complete investigations even though such methods would never be entertained for victims of other types of crimes. This is alarming not only because the results of such tests are unreliable, but the very use of truth-detection devices with victims of sexual violence can do more harm to the victim and frustrate the pursuit of justice. While the utility of truth-detection tests for enticing suspects to agree to be interviewed has long been recognized, there is less appreciation that their use with victims of sexual violence is clearly irreconcilable with trauma-informed interviewing techniques designed to elicit victims' fullest recollections of events while avoiding further harm. This article provides a brief overview on the history and modern forms of truth-detection devices and discusses how the earliest concerns about their reliability and limitations continue to be valid today. It will discuss why truth-detection devices are inappropriate and how, in many jurisdictions, they are prohibited from being used when interviewing victims of sexual violence. Despite the reliability concerns, it will also be discussed how truth-detection devices remain a potentially useful tool during questioning of suspects.

The Origin Story of the Modern Truth-Telling Device

Surprisingly, William Mounton Marston, the creator of Wonder Woman and her lasso of truth, has a close connection to the development of the polygraph, as well as a personal connection with the *Frye*[1] case, which established a standard for the admissibility of scientific and technical evidence. In the early 1900s, Marston developed a keen interest in the overlap between the worlds of law and psychology. These interests led him to develop a theory that changes in a person's systolic blood pressure can reveal deception. He then later helped to create methods and instruments to monitor these changes for purposes of determining when a person was telling the truth.[2]

In 1922, lawyers for James Frye, a man charged with murder, invited Marston to administer his truth-detection test to their client. Their hope was that the results would support Frye's alibi defense. The test results supported the alibi and the defense sought to have them admitted into evidence through Marston's testimony. The trial court denied admission because the jury had already heard Frye testify and could evaluate his credibility without the aid of Marston's conclusions. After Frye was found guilty, the ruling excluding Marston's testimony was challenged on appeal. The conviction was affirmed in a short appellate opinion that established the seminal *Frye* standard, which permits admission of novel scientific testimony only when it has been generally accepted in the scientific community. The court concluded that Marston's truth detection theories fell short of this standard.

The Polygraph Device

The polygraph is the modern heir to Marston's truth detection methods. The device continually monitors and records various biological functions such as blood pressure, heart rate, respiration, and sweat. Trained examiners appropriately attach monitoring devices to a subject's body, conduct the examination, and then read and interpret the results. The tests begin with a series of "control questions" which are unrelated to the investigation but designed to obtain a baseline indication of the subject's biological response to anxiety. For example, a baseline can be obtained by comparing the difference between monitored reactions to non-anxiety producing questions such as, "How old are you?" and more anxiety-producing questions like, "Have you ever lied?" The differences in these monitored reactions are then compared with the reactions to questions relevant to the investigation.

Other Truth-Detection Devices

Polygraphs are not the only devices used for truth-detection tests. Voice Stress Analyzers (VSAs) are software programs designed to detect microtremors in voice patterns. Proponents theorize that these microtremors manifest the stress and anxiety of deception. Trained VSA examiners design questions that are intended to expose these stress patterns. The software then detects changes in vocal patterns and graphs the results on a display. The only equipment needed is a microphone and a computer running the VSA software. As such, VSAs are considered less invasive. This method also allows VSAs to test for deception in recorded statements, as well as during live interviews. However, the preeminent controlled study revealed that VSAs were effective in detecting deception in only half of all cases.[3] It should be noted, however, that the same study showed that VSAs often can deter deception.[4] When subjects *believed* their responses could be accurately tested for deception, they were much less likely to be deceptive.[5]

Newer methods of truth detection include those that monitor brainwaves or rely on magnetic resonance imaging (MRIs). The brainwave method involves electrodes that are attached to the subject's head and measurement of the brainwaves associated with the response to questions or the presentation of images. The MRI method captures images of the brain as the subject responds to certain questions or pictures. The underlying theory of both methods is that deception is associated with specific parts of the brain's anatomy.[6]

Reliability Limitations of Truth-Detection Devices

There is no scientific consensus on how physiological reactions caused by deception can be consistently distinguished from other factors such as anxiety, stress, surprise, and reflexive reaction to stimuli. This poses a challenge to the reliability of the polygraph and any other truth-detection devices. In addition, any test depending on biological responses can be impacted by chronic or temporary health conditions. These conditions may be unknown to the subject or not disclosed to the tester. Consistent reliability of results is also affected by the ability of the examiner. Subjective interpretation, question design, insufficient knowledge of the subject matter, and inaccurate examiner assumptions or bias can all skew results.[7] These issues with reliability and concerns over invading the jury's authority in determining credibility, have led many jurisdictions to categorically prohibit the admissibility of the results of truth-telling device tests.[8]

A Barrier to Truth: Victims and Truth-Detection Devices

Independent of reliability issues, using truth-detection devices with victims of sexual violence is particularly incongruent with increasing knowledge about trauma. Trauma-informed interviewing techniques have developed as a result of greater understanding about the impact of trauma on victims of sexual violence and recognition that uninformed investigative practices can compound a victim's trauma while also impairing the search for the truth. Trauma and other dynamics of sexual violence can impair victims' ability to disclose, especially if they feel that they will be judged or disbelieved.[9] These challenges to disclosure can be aggravated with a request to submit to a truth-detection test which is, on some level, an almost adversarial suggestion that the investigator cannot believe the victim.

Rather than facilitating a search for the truth, requesting or suggesting that a victim submit to truth-detection testing is more likely to obscure the truth by inhibiting the victim's ability to disclose. In addition, the correct answers to questions in a truth-detection test are assumed to be facts that are clear and knowable. However, this expectation is inconsistent with the reality that the trauma of sexual violence can result in degraded or fragmented memories that may cause frustration and anxiety in victims when they attempt to disclose.[10] In cases in which victims are intoxicated, their ability to recall is often further degraded, making a simple truth/deception determination by testing impractical. To the extent truth-detection devices monitor levels of anxiety as a proxy for deception, test results for victims of sexual violence run an especially high risk of being misinterpreted due to the anxiety produced by victimization and by the need to recount the facts surrounding an especially traumatic crime.[11] Simply stated, using truth-detection devices with victims of sexual violence does nothing to further any legitimate investigative goal. The test results themselves are unreliable. The suggestion of the need for the test will likely be inhibit a victim's disclosure and thereby limit further details and opportunities for additional evidence. Lastly, and not least significantly, the very request can further compound trauma for a victim by communicating they are not believed and, unlike any other kind of crime, that it is their burden to show what happened.

The dangers of using truth-detection devices with victims of sexual violence is reflected in the laws governing limitations in eligibility for "Services Training Officers Prosecution" (STOP) funding under the Violence Against Woman Act (VAWA). According to the law,

> **(a) In general**
> In order to be eligible for grants under this subchapter, a State, Indian tribal government, territorial government, or unit of local government shall certify that, not later than 3 years after January 5, 2006, their laws, policies, or practices will ensure that no law enforcement officer, prosecuting officer or other government official shall ask or require an adult, youth, or child victim of an alleged sex offense as defined under Federal, tribal, State, territorial, or local law to submit to a polygraph examination or other truth telling device as a condition for proceeding with the investigation of such an offense.
>
> **(b) Prosecution**
> The refusal of a victim to submit to an examination described in subsection (a) shall not prevent the investigation, charging, or prosecution of the offense.[12]

STOP funding is effectively available to any state or jurisdiction in the United States and supports not only law enforcement departments and prosecutor offices but also nonprofit victim advocate offices and other victim service

providers. As a result, policies or practices that employ truth-detection devices with victims of sexual violence can endanger STOP funding eligibility on a scale much larger than the single agency involved. To comply with STOP eligibility requirements, some states prohibit even requesting a victim of sexual violence to submit to an examination with a truth-detection device.[13] Other jurisdictions hold that requesting a victim to undergo a test is permissible but requiring it as a condition of investigation or prosecution is prohibited. [14]

Truth-Detection Devices and Suspects

Truth-detection devices may have investigative utility when interviewing suspects. As previously explained, VSAs appear to be useful as a deterrent to deception on the part of subjects who believe that the underlying tests are reliable. [15] The nature of the study suggests that this finding could be extended to include polygraphs or other truth-detection devices. Accordingly, an offer to permit a suspect to "prove" a claim of innocence by submitting to testing may induce the suspect to agree to questioning in an environment where they may believe that deception can be accurately determined. Even if the truth-detection device does not function as a deception deterrent for a particular offender, the opportunity for questioning is almost always a useful component in a sexual violence investigation. Even without a confession, the suspect's responses may corroborate details of the victim's disclosure, reveal knowledge of a victim's vulnerabilities, or occasion deceptions indicating consciousness of guilt. While larger unreliability issues may make the results of a suspect's truth-detection test irrelevant to any charging decision, the content of the interview itself can be quite helpful.

Conclusion

Heroines—even fictional ones like Wonder Woman— inspire the pursuit of justice even along the most difficult path. When victims of sexual violence are subjected to truth-detection devices, the only path is a shortcut to injustice that Wonder Woman's lasso would never facilitate. The complexities and challenges to obtaining justice for victims and accountability for offenders is hard work that requires thoroughness and dedication, together with empathy and attention to nuance. While truth-detection devices may be enticing, their use in sexual violence investigations should be limited as an inducement to obtain voluntary statements from suspects and should never be used with victims.

Endnotes

1. Frye v. United States, 293 F.1013 (D.C. Cir. 1923).
2. Jill Lepore, *On Evidence: Proving Frye as a Matter of Law, Science, and History*, 124 Yale L.J. 1092-1158 (2015), https://www.yalelawjournal.org/essay/on-evidence-proving-frye-as-a-matter-of-law-science-and-history. *See also* Rachel Swaby, *How the Creator of Wonder Woman Also Invented the Lie Detector*, Gizmodo (July 12, 2012), https://gizmodo.com/5925461/how-the-creator-of-wonder-woman-also-invented-the-lie-detector.
3. Kelly Damphousse, *Voice Stress Analysis: Only 15 Percent of Lies About Drug Use Detected in Field Test*, 259 NIJ Journal, 8-12 (2008), https://www.nij.gov/journals/259/pages/voice-stress-analysis.aspx.
4. *Id.*
5. *Id.*
6. Ed Yong, *Will we ever... create a perfect lie detector?*, BBC Future (April 6, 2012), http://www.bbc.com/future/ story/20120405-will-we-ever-detect-a-liar.
7. Kristen Houser and Emily Dworkin, *The Use of Truth-Telling Devices in Sexual Assault Investigations*. National SART Toolkit: Resources for Sexual Assault Response Teams (last visited October 15, 2018), https://www.nsvrc.org/publications/nsvrc-publications/use-truth-telling-devices-sexual-assault-investigations. *See generally* Committee to Review the Scientific Evidence on the Polygraph, *The Polygraph and Lie Detection*, National Research Council on the National Academies (2003), http://www.nap.edu/openbook.php?isbn=0309084369.
8. *See generally*, James R. Wygant, *Uses, Techniques, and Reliability of Polygraph Testing*, 42 American Jury Trials 313 (2018).
9. Houser, *supra* note 7.
10. AEquitas, Justice Management Institute, & Urban Institute, *Model Response to Sexual Violence for Prosecutors (RSVP): An Invitation to Lead,* 65-68 (2017), http://www.aequitasresource.org/Model-Response-to-Sexual-Violence-for-Prosecutors-RSVP-An-Invitation-to-Lead.pdf.
11. Houser, *supra* note 7.
12. 34 U.S.C. § 10451 (2007). Under 34 U.S.C. §10446(b)(5), a base amount of $600,000 is made available to each state to assist in the investigation, prosecution, and adjudication of domestic violence and sexual violence cases.
13. *See* AEquitas, *Statutory Compilation on Polygraphing Sexual Assault Victims*, (last updated November 2011) (available upon request).
14. *See* N.Y. Crim. Proc. Law § 160.45(1) (McKinney 2016). ("No district attorney, police officer or employee of any law enforcement agency shall request or require any victim of a sexual assault crime to submit to any polygraph test or psychological stress evaluator examination").
15. Damphousse, *supra* note 3.

This article was originally published in the November/December 2018 issue of Sexual Assault Report and is reprinted with permission. Sexual Assault Report is a bimonthly report letter cover law, prevention, protection, enforcement, treatment, and health issues for professionals working with or on behalf of victims of sexual assault. © Civic Research Institute, Inc., Kingston, NJ.

1100 H Street NW, Suite 310 • Washington, DC 20005
P: 202-558-0040 • F: 202-393-1918