

The Polygraph and Lie Detection, by the National Research Council, Committee to Review the Scientific Evidence on the Polygraph, Division of Behavioral and Social Sciences and Education (Washington, DC: The National Academies Press, 2002), 245 pp., \$49.95. (Can be read online for free at <http://books.nap.edu/books/0309084369/html/index.html>).

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What if there were a diagnostic test (developed by the creator of Wonder Woman) whose administrators made spurious claims of near-perfect accuracy, that was deliberately used in some contexts to deceive those tested about the results, and was used in other contexts to distinguish between honest civil servants and international spies? What if its false-positives index was estimated to be in the hundreds or thousands for some uses, including espionage screening?¹ What if the test might have some potential utility to identify terrorists and to help convict violent criminals, but the usefulness of the test directly depended on the subject's overestimating the validity of the test, and your job included teaching, counseling, or consulting with past, present, or future test subjects? Should you provide accurate information about the test to the subjects, arguably decreasing the safety and security of those not suspected of committing crimes or terrorism? Or should you look the other way while the test was used to discredit some honest, innocent people along with some guilty people?

When the polygraph is used to detect deception, it is comparable to diagnostic procedures used in medicine and psychology. It is used to estimate the likelihood of deception, given that certain physiological responses have been observed. As with any imperfect diagnostic procedure, three factors affect the frequency of false negatives and false positives: the test's accuracy (criterion validity), the threshold used for declaring a test result positive, and the base rate of the condition being diagnosed. Scientific analysis of these factors can guide polygraph users (including government agencies) and consumers

(including government employees and applicants, criminal suspects, and potentially anyone).

The Committee to Review the Scientific Evidence on the Polygraph was asked by the U.S. Department of Energy to conduct a scientific review of the research on polygraph examinations that pertains to their validity and reliability, particularly for personnel security screening, and to provide suggestions for further research. This book is their report. It is fascinating reading, exploring both basic science and real-world applications. Available research is critically reviewed to assess the current state of knowledge about the polygraph and the type of research that is needed.

The authors distinguish between the polygraph's validity (scientific accuracy) and its utility (usefulness as a tool to help get accurate confessions, etc.). They conclude that polygraph testing is not accurate enough to justify its use for personnel security screening. They note that an inaccurate procedure (or even a totally bogus one) might nevertheless have some utility for deterrence and interrogation (employees might avoid crime or confess because of exaggerated or false expectations that a polygraph would reveal about lying about crime). The committee rightly makes no ultimate recommendation about whether the government should continue to use the polygraph in personnel screening, noting that decisions about whether to use the polygraph involve the valuation of positive and negative effects that go beyond the realm of science. That decision should be guided by scientific knowledge, but it is ultimately a policy decision to be made by government policy makers.

This report sparks serious thought about how polygraph testing affects our lives. The report lists the following three main purposes for which the polygraph is currently used: pre-employment and pre-clearance screening in law enforcement agencies and agencies involved in national security; screening of current employees, especially in security-sensitive occupations; and investigations of specific events, including criminal

cases. The costs and benefits of polygraph use vary across these applications for a variety of reasons, including the different base rates (perhaps approximating one in two for some criminal investigations versus one in thousands for espionage screening). The remainder of this review provides a brief consideration of how this report will affect forensic psychologists.

Implications for forensic psychologists

Pre-Employment and pre-clearance screening Psychologists regularly consult with law enforcement agencies and agencies involved in national security. Prospective employees are routinely scheduled for both polygraph and psychological evaluations, and the report of the polygraph examination may be included in materials reviewed by the evaluating psychologist. Applicants might be more willing to provide accurate information during the psychological evaluation, since at least some details are likely to be compared across contexts. Because greater accuracy of input would presumably enhance the accuracy of the resulting psychological evaluation, the use of polygraph testing may be expected to enhance psychological evaluations in this context.

Because polygraph testing is imperfect, psychologists should keep in mind that some lying applicants will “pass” the polygraph test and some truthful applicants will “fail” it. Given the lack of research for combining polygraph results with other methods, including psychological tests and interviews, psychologists’ reports and recommendations should be made independently of polygraph reports, except where there are contradictions between what the applicant told the psychologist and what the applicant said in other contexts (e.g., the polygraph interviews, written application, oral boards). When there are apparent contradictions, this should be noted in the report

What about when the applicant tells the polygrapher and the psychologist the same thing, but the polygrapher reports that deception is suspected? The psychologist should base recom-

recommendations on information other than the polygraph (psychological testing, background investigations, etc.), perhaps noting that confidence in the accuracy of the psychological evaluation may be decreased by suspicions about the applicant's honesty. Research does not support a practice of relying on the polygraph to treat some specific statements by the applicant as truthful and other specific statements as lies.

For current employees who undergo polygraph screening as they are being considered for promotion or enhanced security clearance, the issues are similar to those of prospective employees (this section). The next section deals with random screening of current employees.

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| Screening current employees | Some government agencies use polygraph testing on current employees to catch spies and to deter spying. As noted in <i>The Polygraph and Lie Detection</i> , the estimated base rate for spies is one in thousands. Given the limited accuracy of polygraph testing, the great majority of people with positive results are false positives: not actually spies. This area is explored in depth in the report. Psychologists may wish to weigh in on “credible claims that agencies that use polygraphs [for security screening of current employees] are infringing on civil liberties for insufficient benefits to the national security” (p. Summary – 5). ² |
| Investigating specific events | Polygraph testing is used as an interrogation or investigation tool by law enforcement agencies investigating specific crimes. When used as an interrogation tool, the polygraph is described to a suspect as a highly accurate technique for finding the truth. In the midst of a stressful, intense interrogation, in which the interrogator is describing (often false and exaggerated) evidence showing that the suspect committed the crime, the polygraph is offered as a way for the suspect to prove his innocence. If the interrogator surmises that the suspect is guilty, then regardless of the outcome of the polygraph testing, the suspect is told that the polygraph clearly shows that he is lying and that he is guilty. The interrogation continues, with the goal |

of getting the suspect to make statements that would be used to seek conviction for the most serious crime possible.

The same techniques that work to get guilty people to confess can sometimes lead innocent people to confess.³ In deciding whether a particular confession was illegally coerced, the courts consider the totality of the circumstances of the confession. Courts have generally found it constitutionally permissible for police to lie to suspects in an attempt to extract a confession. Some courts distinguish between lies spoken by the police and documents fabricated by the police.⁴ Interrogators routinely push the limits of what the courts allow. For example, in a recent case for which I consulted, an interrogator showed a suspect a computer-derived polygraph result, told the suspect that the "lie scores" on two of the questions were .9718 and .9860, and explained that the results proved that the suspect lied to the interrogator and was guilty of the crime. This occurred in spite of the district court's ruling that it is impermissible for police to present false scientific documents to a suspect in an attempt to extract a confession.⁵

In such cases psychologists can assist courts by providing scientific information such as that contained in *The Polygraph and Lie Detection*. There is not a tight link from the physiological responses to the psychological states presumable tied to deception, and psychological states other than deception may generate physiological responses from which deception is (erroneously) inferred. "Almost a century of research in scientific psychology and physiology provides little basis for the expectation that a polygraph test could have extremely high accuracy" (p. 8-1). Psychologists can also assist courts in appreciating how providing false information to suspects can contribute to false statements by the suspects.⁶

Probation and treatment monitoring

Probation and treatment monitoring is a common application of polygraph testing that is not mentioned in the committee's report, but in which polygraphers and psychologists often work on the same case. Current legislation and policies

require some convicted sex offenders to undergo polygraph testing while on probation and/or in sex offender treatment. This creates potential role conflicts for psychologists.

Consider the roles of a psychologist who is treating sex offenders on an outpatient basis, under contract with the state department of probation. Assume that the department of probation is legally permitted and encouraged to require sex offenders on probation to undergo polygraph screening, but is not allowed to sanction a probationer solely on the basis of the results of the polygraph screening. The polygrapher uses the process as an attempt to get the probationer to disclose behavior that violates the law or his conditions of probation. The polygrapher and the probation officer collude to misdirect the probationer into believing that the polygraph is perfectly (or near perfectly) accurate and that it would be better for the probationer to disclose any wrongdoing than to deny wrongdoing and be “caught” by the polygraph. This practice may have benefits for society in that some reoffenders will be detected and isolated from society after offending against fewer victims (rather than waiting for them to get caught through other means). But given the inaccuracy of the polygraph, some probationers who have not reoffended will be considered to have reoffended; the probation officer might be more likely to push for—or even help to create—minor probation violations that would allow for revocation of probation and reincarceration.

Now imagine that you are the treating psychologist, and a probationer who is scheduled for a polygraph in two days is asking you for advice. If you do not reveal accurate information about the inaccuracy of the polygraph and the less-than-earth-shattering results of “failing” such a polygraph, you join in the deception and collusion of the polygrapher and the probation officer. If you do reveal the information to the probationer—even without giving advice—you may destroy the usefulness of the ploy. What do you do?

Summary of implications Polygraph testing is not nearly as accurate as the public believes, a phenomenon the committee terms the “polygraph mystique.” The committee’s investigation led them to believe that many polygraph proponents and practitioners also have unwarranted beliefs about the accuracy of the polygraph. The committee laments the schism between science and practice, and offers recommendations about how a broad program of research could enhance understanding about the accuracy of the polygraph (and limits thereto) and improve efforts to detect deception. If policy makers decide to implement the proposed research program, the future will likely see advances in the goals of polygraph testing such as national security and crime control.

Although the committee shows that available research does not support practitioners’ claims about the polygraph’s accuracy, they leave policy decisions to policy makers. That is consistent with their mission to provide independent, objective advice on issues that affect people’s lives. But now I invite the reader to consider how the use of the polygraph affects people’s lives currently. Polygraph testing is often employed as a tool in a flim-flam operation that relies on the polygraph mystique to allow one group of people—government workers—to exploit other groups of people—probationers, suspects, and other present or prospective government workers—in a web of deception ostensibly designed to detect deception. The committee notes that “ethical issues will arise with some uses of interrogation techniques that rely on elements known to be bogus” (pp. 8-13), but it understates the ethical issues arising from interrogation techniques now known to rely on elements with highly exaggerated claims of accuracy.

The committee concludes that in populations of examinees untrained in countermeasures, specific-incident polygraph tests can discriminate lying from truth telling at rates well above chance, though well below perfection. Because both the public and many polygraph practitioners overestimate the accuracy of polygraph testing, polygraph results are misinterpreted and

misused. People who tell the truth but “fail” the polygraph (false positives) undergo undue stress and may face job loss or incarceration (including those who fatalistically accept plea bargains or who give false confessions). Investigative efforts may cease prematurely for people who lie but “pass” the polygraph (false negatives); spies and criminals go undetected. Better appreciation of the polygraph’s limitations would lead to less oppression of the unfortunate false positives and better use of resources in detecting espionage and solving crimes.

Whose job is it to tell the public the truth about the polygraph’s level of accuracy? It is our job. The preamble to the 2002 Ethical Principles of Psychologists and Code of Conduct⁸ includes:

Psychologists are committed to increasing scientific and professional knowledge of behavior and people’s understanding of themselves and others and to the use of such knowledge to improve the condition of individuals, organizations, and society. Psychologists respect and protect civil and human rights and the central importance of freedom of inquiry and expression in research, teaching, and publication. They strive to help the public in developing informed judgments and choices concerning human behavior.

Notes

1. That is, for each spy correctly identified, hundreds or thousands of employees would be falsely suspected.
2. Page numbers are from the prepublication copy.
3. Gudjonsson, G. (1992). *The Psychology of Interrogations, Confessions and Testimony*. New York: Wiley; Kassim, S.M. (1997). The psychology of confession evidence. *American Psychologist*, 52(3), 221-233.
4. *State v. Cayward*, 552 So.2d 971 (Fla.1989), review dismissed 562 So.2d 347 (Fla.1990).
5. *Id.*
6. Cf. Gudjonsson and Kassim, *supra* note 3.
7. Currently, my approach is to recommend to the probationers that they consult with an attorney. I provide scientific information to the attorney and leave it to the probationer and the attorney to decide how to respond to the order to undergo polygraph screening.
8. Downloaded from the Internet on 1/1/03 at <http://www.apa.org/ethics/>.