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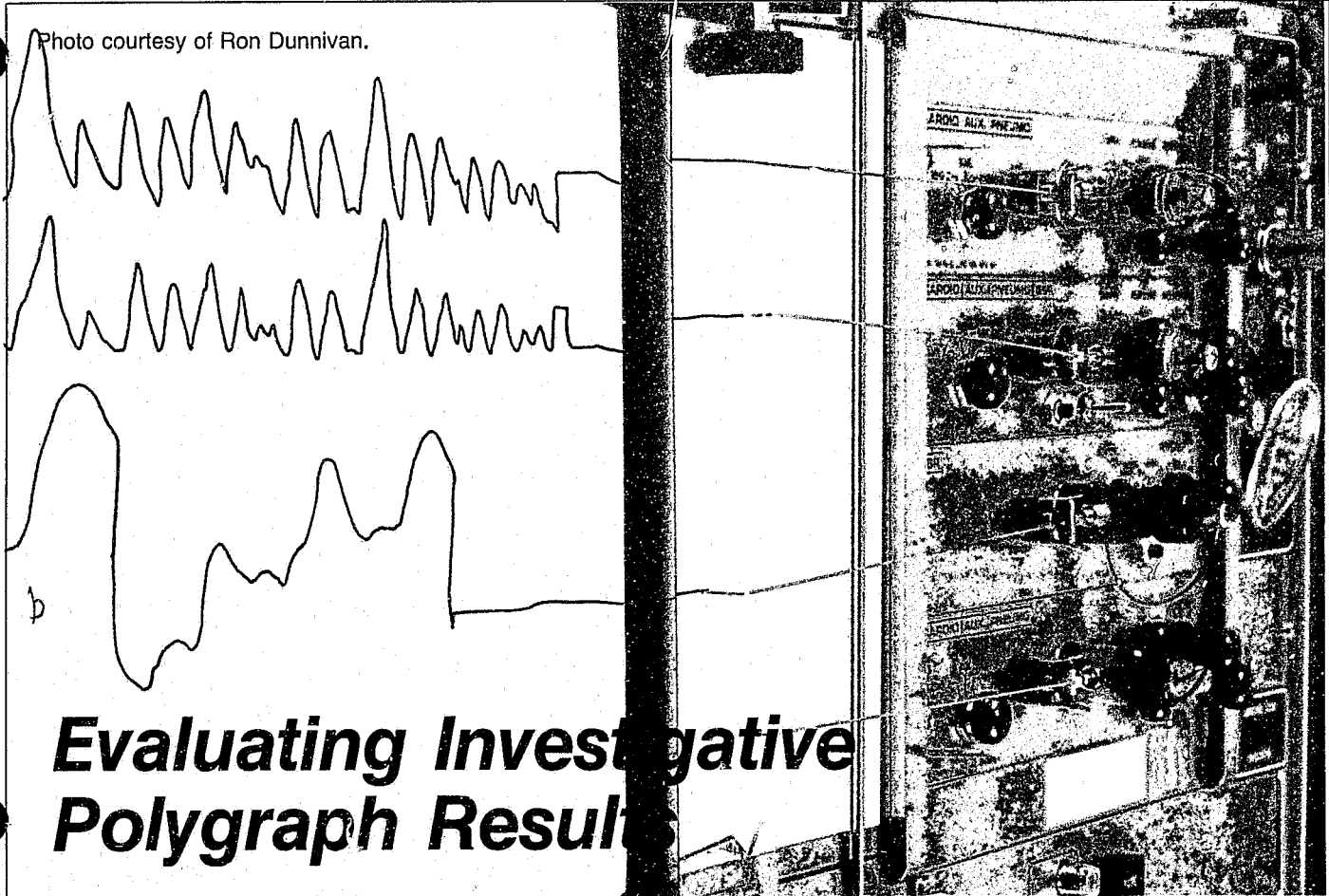


Photo courtesy of Ron Dunnivan.

Evaluating Investigative Polygraph Results

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Suppose your department receives a report from an obviously distraught young mother who said she was in a neighborhood convenience store for a couple of minutes to buy milk when her one-year-old daughter was kidnaped from her car. Suppose further that the investigation confirms certain details of the mother's account, but that other aspects of the case were troublesome and just didn't "ring true." How can you "weed out" the deceptive statements from the ones that are true?

Law enforcement agencies have found the polygraph to be a highly successful and useful technique to resolve such investigative

dilemmas. Frequently, in such cases, important managerial and investigative decisions must be based primarily on the results of the polygraph examination and the examiner's evaluation of the charts, when there is no confession or other credible evidence to fully confirm the examiner's opinion.¹ Should the investigation continue? If so, should the focus of the investigation change or remain the same? Should additional resources be allocated to the case? While there are no clear-cut rules to govern the manager's decision, there are certain factors which may be useful in assessing the level of confidence given to an examiner's opinions on a case-by-case basis.

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This article discusses the many factors which influence polygraph accuracy. It will also enable law enforcement managers and investigators to better determine the weight which should be given to polygraph examination results and examiner conclusions. Further, the information discussed may prove useful in determining whether an examination should be given at all, and if so, what might be done to improve the probability of accurate results.

ACCURACY FACTORS

A polygraph examination is a process which consists of many variables. Credible research concerning polygraph validity indicates that accuracy levels exceed 90 percent for certain investigative polygraph methods.² However, this does not mean that 90 out of 100 examinations conducted by every examiner in every situation will be correct.

Since polygraph examinations are not infallible indicators of fact, examiner conclusions must always be viewed with a degree of caution. Policy within the Federal investigative and intelligence communities specifies that examiner conclusions, based on chart interpretation alone, should not be a determiner of investigative fact and should not be used to exclude other evidence. Examiner opinions constitute but a single element of all the information which becomes available during a complete and thorough investigation.³

Contributing factors to the accuracy level of the polygraph can be grouped into four major categories—the examiner, the examinee, the investigation, and

the examination conditions. Quality control reviews may also be useful in assessing polygraph results.

The Examiner

Without a doubt, examiner skill contributes greatly to polygraph examination accuracy. Of course, most investigators who have worked with a number of different examiners over time realize that all examiners are not the same and do not achieve the same results from the examinations. Some examiners are far more successful and capable than others in solving cases. They are the ones who usually “get the confession” or somehow cause things to happen to clarify or to advance the investigation.

However, it is prudent to exercise caution when an examiner’s opinion is based solely on the charts. The same “people skills,” or interrogation ability, which produce confessions are not necessarily the same skills which result in proper chart analysis.

A key factor when attaching weight to an examiner’s opinions

behavior and body language as a sign of deception. The best examiners will be proficient in at least one and preferably in a variety of recognized polygraph techniques⁴ which have been demonstrated, through competent research, to have a high level of validity. Further, they will have been trained in and use the “numerical analysis” method of chart interpretation, which promotes objective chart evaluation, has been validated by competent research, and which probably contributes to overall accuracy.⁵

In addition to their initial examiner training, the most qualified examiners will have received refresher training within the last year as an aid to retaining proficiency and adhering to recognized standards and procedures.⁶ They should also demonstrate professionalism by showing an interest in current research, maintaining membership in professional associations, and following current developments in the polygraph field through journal articles and newsletters.

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is the quality of their training. Generally, most qualified examiners will have been trained at a reputable polygraph school or through a course accredited by the American Polygraph Association, which does not place primary emphasis on an examinee’s

Another factor which contributes to examiner competency is experience. Qualified examiners will have accumulated considerable experience in polygraph usage and may have even completed an internship under the supervision of a senior examiner.



Special Agent Furgerson

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They will also be in positions to use their polygraph skills often, so that their skills will not erode through neglect or inactivity.⁷

An experienced examiner will also be better able to establish rapport with examinees, to determine if examinees are proper candidates for examination at that time, and to select the interview technique most likely to properly prepare examinees for examination (and subsequent interrogation if deception is indicated). Also, they should be able to detect the presence of any countermeasure an examinee may use in an attempt to thwart the examination process.

The case facts may be highly complex, requiring examiners to resolve a number of issues and sub-issues. Therefore, experience as an examiner and an investigator, or other experience involving the analysis of criminal activity and behavior, is helpful in identifying the issues to be addressed during the examination and how to best structure polygraph examinations to do so.

An examiner's personal integrity and moral courage have great significance. A professional

examiner will not be intimidated to reach popular opinions or just to substantiate opinions of previous investigators. Professional examiners will not test candidates who are unfit for examination and will not conduct examinations under unsuitable conditions, with inadequate preparation time, or with insufficient background information on the case. Their examinations will always be directed at solving the case and/or addressing all the issues under investigation. They will *not* simply try to find some question the examinee can answer truthfully, or is sure to fail. Finally, ethical examiners, whose opinions are valued, will not view the polygraph as merely an interrogation tool. Rather, they will take polygraph science seriously and will conscientiously strive to ensure that their opinions have value, even when there is no confession.

The Examinee

A second major factor bearing on the accuracy of polygraph examiner opinions is the examinee. The investigator or law enforcement manager can evaluate

the accuracy of polygraph results by discussing the examinee knowledgeably with the examiner and by evaluating the conditions affecting the examinee.

The most obvious factors influencing examinees are their physical and emotional conditions. People who have not had regular food or rest, or who are clearly under great emotional stress, are poor candidates for examination. Therefore, it is unwise to examine subjects who have just undergone an intensive or prolonged interview or interrogation, who have just been injured, who are physically fatigued, or who have just undergone significant emotional shock, such as the loss of a loved one or personal trauma. However, people who are under a relatively high level of stress normally associated with police-related interviews and interrogations *are* proper candidates for examination. This type of stress is common to examinees, does not adversely affect examination results, and can be compensated for by using various controls in well-structured examinations. However, examinees subjected to lengthy and/or intense accusatory interrogations may become sensitized to relevant questions, thereby detracting from the accuracy of the exam.

Psychological factors also greatly influence polygraph accuracy. When the intensity of the issue under investigation is personally significant to the examinee, accuracy is likely to be greatest, irrespective of whether the examinee is truthful or deceptive. This situation exists when the consequence is not advantageous to the examinee, e.g., when the results of the polygraph examination will cause investigators to

question or disbelieve the examinee's statements. Personal involvement helps to ensure that examinees are alert and psychologically "tuned in" to the examination process, and that extraneous thoughts or concerns do not interfere with the examinee's concentration on the interview.

Polygraph examinations can only determine if examinees are reporting what they believe to be true, or whether they are being intentionally deceitful. If examinees honestly believe that they are telling the truth, a properly conducted polygraph examination is likely to reflect that belief. However, examinees can be honestly mistaken about what they believe, which is why, in evaluating an examiner's opinions, investigators must assess the likelihood that examinees accept their statements as the truth.

No research has been conducted which correlates age with polygraph accuracy. However, based on experience, if the examinee is unable to adequately distinguish between a truth and falsehood, or will suffer no significant consequences if discovered to be deceptive, then age becomes a critical factor.

Accurate polygraph testing demands that examinees be psychologically fit. They must be able to distinguish between reality and fantasy and must be mentally competent to comprehend and participate in meaningful dialogue with the examiner. Their ability to comprehend events during the examination process, and to respond physiologically, must not have been adversely impaired by mental illness, drugs or alcohol or, as stated previously, by physical or emotional exhaustion.

The polygraph examiner, sometimes based on consultation with a physician or psychiatrist, should determine if a person is a suitable candidate for polygraph testing. Even when the examinee's condition is far from optimum, operational exigencies and circumstances surrounding an investigation may dictate conducting an examination. When that happens, and no credible evidence is developed to support the examiner's opinions concerning the examinee's truthfulness, the examinee's condition may degrade the accuracy. By observing an examinee's behavior and analyzing case facts concerning the examinee's access to and ability to comprehend the truth about statements made, and through discussions with polygraph examiners, investigators and officials can make more informed decisions concerning the likelihood that the examiner's opinions are well founded, or conversely, may have been

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adversely affected by the examinee's condition.

The Investigation

Polygraph examinations given in the law enforcement environment are not isolated events, but are part of an investigation. Therefore, the structure of the polygraph examination and the examiner's strategy for administering it are largely dependent on the information developed during the investigation.

The quality of the investigation that precedes a polygraph examination is critical to examination accuracy, which is why the investigation should be as thorough and as comprehensive as possible. The examiner's strategy for the entire polygraph process is designed to build upon the investigation. While the examiner's tactics may change due to events that unfold during the examination, especially new revelations from the examinee, the examiner is dependent on investigative input as a foundation for the examination. Erroneous information about the offense, the crime scene, evidence, or the examinee's role in the case could easily cause the examination process to miss the mark and produce incorrect conclusions.

All information on the offense, which can be obtained through conventional investigative methods, should be collected prior to the polygraph examination.

This is not to say that in some situations, circumstances may dictate giving an examination while the investigation continues. In fact, there may be times when it is wise to conduct an examination early in the investigation to help determine the direction of the investigation, or to prevent the needless expenditure of resources on uncorroborated information, such as may be furnished by a source/informant of unknown reliability. However,

regardless of when the examination is conducted, all available case facts, including results of interviews, crime scene information, and forensic laboratory reports, should be furnished to the examiner in sufficient time to be thoroughly reviewed and digested prior to the test.

Information on the role or nature of the examinee's involvement in the case should be furnished to the examiner, along with details of all previous statements the examinee provided. For this reason, an investigator should interview all persons to be polygraphed prior to the examination, record the results, and furnish them to the examiner. This way, any slight variations from any previous account of events that occur during the polygraph examination will be clear.

Successful examiners will plan examinations to allow for some investigative error or imprecision. For example, in a bank

robbery investigation, the examiner should consider the possibility that the person found in possession of the "bait money" may have participated in the crime in some capacity other than that of the actual robber. It is even possible that the examinee came into possession of the money through some innocent means. Therefore, a well-qualified examiner will consider including questions concerning "knowledge of the crime," "participation in any way," and "evidence-connecting" in the examination, in addition to the obvious question, "Did you rob the bank?" Even so, accurate investigative information is mandatory to assist the examiner in focusing the examination and "asking the right questions." Those concerned about the accuracy of examiner opinions should review the quality of the investigative information available to the examiner prior to the polygraph examination.

Examination Conditions

The final area to consider in assessing the accuracy of an examiner's opinions concerns the conditions which surrounded the actual examination. In assessing this area, the investigator or law enforcement official should review all of the conditions which existed when the examination took place, especially conditions which were not obvious in connection with other factors. Professional examiners will willingly discuss results relative to examination conditions.

Even under the best of conditions, the polygraph may produce misleading results. As with any professional procedure having an element of subjectivity, rushed, harried testing conditions may cause accuracy to deteriorate because of inadequate time for a thorough investigation and for proper briefing of the examiner. Adverse consequences also can result because of examiner stress, an unintentional shortening of the pretest interview, and relaxation of or deviation from standard procedures.

The examiner should have sufficient time to prepare for the examination without interference from departmental authorities or investigators prior to or during the examination. Also, no hint should be made by those involved in the investigation as to expected or desired results. The examiner should have the latitude to conduct the examination at a comfortable pace, free from extraneous official pressure.

Another examination condition which could affect polygraph accuracy relates to the physical surroundings of the examination site. Best results are obtained in a



Left: Polygraph examiners should have full access to case data and receive a thorough briefing from the investigating officer or case agent.

Below: Research has shown the value of the numerical analysis system of chart interpretation in enhancing polygraph accuracy.



professionally equipped, polygraph suite with good lighting, modern instrumentation, adequate ventilation, and temperature control. The polygraph suite should be designed to eliminate any distractions, such as extraneous outside noise. Once started, examinations should be interrupted for only the most compelling reasons. Examinations conducted in other than carefully controlled environments may be contaminated by the introduction of these negative influences.

It would be impossible to address in this article all the possible variables which could play an important role in polygraph accuracy. However, by carefully reviewing all the circumstances surrounding the examination, any deviations from normal conditions become apparent. Such variances should be viewed with suspicion. Examinations which take place under "crisis-like" conditions can get out of control and result in less than optimum performance by examiners, investigators, and examinees.

Quality Control

One important element which may be useful in assessing polygraph results is the result of the quality control review of the examination, if one was conducted. Quality control should be an integral part of law enforcement polygraph usage, as experience in the Federal polygraph community has shown.

Quality control reviews consist of independent, "blind" evaluations of polygraph charts and related documentation by other senior and well-qualified examiners to ensure that the original

testing examiner's conclusion as to truth or deception are substantiated. While such reviews do not assure the examination's scientific validity, they do promote consistency in examination results, ensure that proper procedures were used, and guarantee that chart interpretation adheres to established standards.

Departments too small to have a quality control program may be able to establish such a

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program with another department. And, if it is impossible to obtain a quality control review locally, charts and documentation from particularly important cases may be submitted to FBI Headquarters for review.

CONCLUSION

A large number of variables have the potential for influencing polygraph accuracy. Wise investigators and law enforcement officials will carefully assess the factors impacting on particular polygraph examinations. Knowing how these factors influence accuracy will permit better-informed judgments about the weight accorded to an examiner's opinions concerning the veracity of statements made by the examinee. This, in turn, should result in more appropriate use of polygraph results in directing subsequent, investigative proceedings. FBI

Footnotes

¹In polygraph examinations conducted by the FBI, between 50 and 60 percent indicated that the examinee was deceptive. Also, approximately 60 percent of those believed to be deceptive either confessed or admitted withholding or significantly falsifying information furnished to authorities. Most of the remaining "deceptive" examinations and almost all "non-deceptive" examiner conclusions are not confirmed, yet must be factored into investigative findings. About 10 percent of all examinations conducted in FBI cases are "inclusive"; about 1 percent are incomplete." "Polygraph Activities Report." Laboratory Division, Federal Bureau of Investigation, Washington DC, January 13, 1989, p. 4.

²Polygraph validity is the extent to which a polygraph method achieves correct identification of lying and truthful examinees in a specified application. See also, e.g., D.C. Taskin, G.H. Barland, and J.A. Podlesny, *Validity and reliability of detection of deception* (Grant No. 75-NI-99-0001 to the University of Utah), National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, DC, 1978, p. 8. This study indicated that accuracy rates were quite high with a combined accuracy of decisions (for both truthful and deceptive examinees) which exceeded 90 percent. Approximately 10 percent of the examinees yielded inconclusive results, and the errors were almost equally distributed between false positives and false negatives.

³Ronald M. Furgerson, "Polygraph Policy Model for Law Enforcement," *FBI Law Enforcement Bulletin*, vol. 56, No. 6, June 1987, pp 6-20, for a thorough discussion of policy considerations in polygraph usage.

⁴"Polygraph techniques" is a general term referring to the various methods for conducting polygraph examinations. Each technique consists of all components of the examination process, including the procedures for pretest interviews, testing, chart evaluation and decisionmaking, and post test interviews. Key elements of various techniques include the structure of the test questions, the types and number of questions, how they are presented, and their sequencing.

⁵Supra note 1, at 23.

⁶Regulations of the Federal Bureau of Investigation specify that to retain their certification, FBI examiners must undergo refresher/inservice training at intervals not to exceed 2 years. *Manual of Investigative Operations and Guidelines*, Federal Bureau of Investigation, Washington, DC, p. 1198.05.

⁷E.g., FBI examiners are encouraged to conduct a minimum of 48 examinations per year. *Manual of Investigative Operations and Guidelines*, Federal Bureau of Investigation, Washington, DC, p. 1198.05.