| VOLUME 23 | 1994 | NUMBER 1 |
|---|--|----------|
| | CONTENTS | |
| U.S. Joint Security Com Considerations | nission Report Includes Polygraph | 1 |
| Crime and Security Risk Richards J. Heuer | , Jr. | 24 |
| Polygraph Program, Unit | ed States Department of Defense | 61 |
| Is the Guilty Knowledge Polygraph Technique Applicable in Criminal Investigations? A Review of FBI Case Records John A. Podlesny Appellate Decisions Involving Polygraph Issues Norman Ansley People Are Entitled to the Truth Erle Stanley Gardner | | s 85 |
| | | 95 |
| | | 105 |
| Legal Articles on the Em Norman Ansley | ployee Polygraph Protection Act of 19 | 88 |
| Abstract Abrams: The Val With Children (19 | lidity of the Polygraph Technique 75) | 115 |

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U.S. JOINT SECURITY COMMISSION REPORT

INCLUDES POLYGRAPH CONSIDERATIONS

On February 28, 1994, the report *Redefining Security, A Report to the Secretary of Defense and the Director of Central Intelligence*, was issued by the Joint Security Commission. The Commission was convened on June 11, 1993 to develop a new approach to security that would assure the adequacy of protection within the contours of a security system that is simplified, more uniform, and more cost effective. The Commission was to remain in place until June 1, 1994 to implement their recommendations, or at least those that were accepted. Recent news reports relating to the disclosure of the espionage engaged in by Aldrich H. Ames and his wife have suggested some alteration may be made in the Commission report; or, the views of the report may be altered by the Secretary of Defense and Director of Central Intelligence and others involved in implementing or rejecting Commission recommendations.

The Commissioners were Jeffrey H. Smith, Chairman; Duane P. Andrews, J. Robert Burnett, Ann Caracristi, Antonia H. Chayes, Anthony A. Lapham, Nina J. Stewart, Richard F. Stolz, Harry A. Volz, and Larry D. Welch. The Executive Secretary of the Staff was Dan J. Ryan of the C.I.A. and his Deputy was John T. Elliff of the D.O.D.

Much of the report is irrelevant to the field of forensic psychophysiology, and we reprint in this journal only a portion of the 157-page report. Deleted are chapters on classification management, threat assessment, physical security, protection of advanced technology, a joint investigative service, information systems security, the cost of security, security awareness, and security architecture. Included is a portion of the chapter on personnel security on the polygraph, and appendix C., a statement by Commissioner Lapham on the polygraph.

Various APA members were consulted in the development of the Commission's report. Publication of the report, however, is not an endorsement of the report. In fact, the APA has taken no position on the recommendations. [Ed.]

Note: Sentences in italics are those sentences emphasized in the report by repeating them separately in the margin. [Ed.]

THE POLYGRAPH

The polygraph is a controversial investigative technique. While some argue that the polygraph is the most effective information gathering procedure available, others point to its lack of scientifically established validity, the overreliance on passing polygraph examinations as a "guarantee" of trustworthiness, and the belief that it is unacceptably intrusive and violates personal privacy. The Commission was asked to undertake an objective review of the Federal personnel security screening polygraph program to determine how well its works, how it could be improved, and whether it should be continued.¹

Background

The polygraph² is a multichannel instrument that records changes in respiration, cardiovascular activity, and skin resistance in response to questions. According to polygraph theory, when a subject gives a false response to a relevant question (questions of concern to security adjudicators), the physiological reaction will be greater than the reaction to other questions (control or irrelevant questions). However, contrary to popular belief, there is no physiological response that is unique to deception. The reactions measured by the polygraph can be caused by a variety of emotions. This fact underlies much of the controversy surrounding the polygraph.

The polygraph process consists of a pretest interview, test phase, and posttest interview. During the pretest interview the polygraph examiner tries to establish rapport with the subject, reviews with the subject the background history statement, familiarizes the subject with the polygraph instrument if necessary, and then enters into a detailed explanation and discussion of the exact questions that will be asked during the test phase of the exam. It is generally not explained to the subject that there will be two or more different types of questions asked during There are questions of primary interest such as "Are you engaged in the examination. espionage?" or "Within the last 5 years have you used, possessed or sold any narcotics or dangerous drugs?" These questions are also known as "relevant" questions. Also included are a series of questions designed to assist the examiner in calibrating the subject's responses to the relevant questions during the test phase. Depending upon the polygraph technique used, such a question may be an irrelevant questions (Are you wearing shoes?) or some type of a control question (Have you ever betrayed the trust of someone who depended on you?). The subject may or may not be asked to lie in response to the control questions and at present, most subjects are not told to lie. The examiner, who is a trained investigator and usually highly skilled in

¹ Commissioner Lapham's remarks on the polygraph are contained in Appendix C.

² "Polygraph" is Greek for "many writings," reflecting the multiple readings that are recorded simultaneously. The instrument--which was basically developed by 1949--measures physiological changes in response to questions.

interrogation, will encourage the subject to "come clean" on each of the relevant questions while at the same time attempting to restrict or minimize the subject's answers to the control questions.

Significant admissions to relevant issues are explored fully through interrogation. Unimportant admissions are excluded by modifying the questions with "Except for what you have disclosed to me, have you ever ...?" This process continues until the subject is able to answer all questions with a "yes" or "no" and the examiner is convinced the subject will properly respond to all types of questions posed during the exam, that is, a guilty subject will react to the relevant questions, while an innocent subject will react most significantly to the control questions.

During the test phase the subject is attached to the polygraph instrument and is limited to responding "yes" or "no" to the relevant and control questions asked. The test phase is generally very short in duration. During the posttest phase, the subject is given an opportunity to explain any reaction to certain questions. Standard interrogation techniques are employed, but only responses to relevant questions are explored with the subject. If the subject offers an admission, the test is readministered with the question causing the reaction changed to "Other than what you have told me, ...?" or a new set of questions are asked that focus more narrowly upon the issue(s) in question. This process continues until the subject no longer reacts to any of the (modified) relevant questions, the subject terminates the interview, or the examiner determines that additional testing may need to be conducted at a later time.

Establishing the proper examination setting is challenging for the examiner and can be very stressful to both innocent and guilty subjects. Even innocent subjects have to undergo an extremely unpleasant self-examination, before a government investigator, regarding highly personal information, while knowing that the whole proceeding is being recorded. Many Commissioners were troubled by the wide latitude given to examiners and the possibilities for abuse, especially where relevant and control questions are used to elicit highly personal information of questionable relevancy to security screening. While attempts can be made to minimize the discomfort level for innocent subjects such settings can and do result in anguish and in complaints of abuse.

Applications of the Polygraph

The DoD and the Intelligence Community use the polygraph in the following areas: specific issue investigations (criminal and security), personnel security screening, and operations (vetting and validation of intelligence sources). The Commission evaluated the use of the polygraph in personnel security screening only. Specific issue investigations and operational uses of polygraph were outside the scope of this review.

Two types of polygraph examinations are currently used in personnel security screening: the counterintelligence-scope (CI-scope) polygraph and the full-scope polygraph. The CI-scope polygraph focuses on espionage, sabotage, terrorism, subversion, mishandling of classified information, and unauthorized contacts with representatives of foreign governments. The fullscope polygraph covers all of the CI-scope questions and a number of issues that pertain to both security and suitability for employment (questions that have been inaccurately labeled "lifestyle"). These questions may address any of the following issues: criminal history, serious financial problems, use of illegal drugs, excessive use of alcohol, falsification of information on the personal history statement, and serious nervous or mental disorders. Questions about sexual orientation are no longer asked during polygraphs. The entire polygraph process (pretest, test and posttest) in the DoD and the Intelligence Community is recorded (video and/or audio). The recording is justified on quality control grounds, but it also raises concern because it creates a record of extremely sensitive, personal information about the applicant.

Screening polygraphs, particularly the full-scope polygraphs, are more controversial than specific issue polygraphs because they cover a wider range of personal matters and are administered to individuals who are not suspected of specific wrongdoing. Polygraph opponents argue that screening polygraphs are intrusive dragnets for information and that individual privacy interests outweigh the government's need for such wide-ranging searches. Proponents contend that screening polygraphs are used only to seek information that is relevant to trustworthiness and therefore to national security interests. They point out that these same issues are addressed in personal history statements, personal interviews, and background investigations and that the basis for asking them derives from approved adjudicative criteria.

The CIA and the NSA are the only agencies that use full-scope polygraphs to screen applicants for employment. For these agencies, the screening polygraph serves both security and suitability functions. They require the polygraph as a condition of employment because any employee of these agencies may have access to a broad range of classified information in the course of his or her regular duties. The DoD, which uses a CI-scope polygraph only, has been limited by Congress to 5,000 screening polygraphs per year (with major exceptions such as the NSA, the NRO, and cryptographers). The DoD's use of the screening polygraph is not related to employment. Rather, these polygraphs are administered to people who already occupy sensitive positions but require access to a specific or several sensitive programs for which the polygraph has been established as a requirement.

The following arguments have been made in favor of the polygraph:

a. A Unique Source of Information: Officials at the CIA and the NSA point out that the polygraph elicits important adjudicative information that is often not obtainable by other investigative methods, such as personal history statements, personal interviews, and background investigations. In fact, the most important product of the polygraph process is more likely to be an admission made during the interview than a chart interpretation. While senior officials at the CIA and the NSA acknowledge the controversial nature of the polygraph process, they also strongly endorse it as the most effective information gathering technique available in their personnel security systems. They argue that without the polygraph, the quality of their work force would suffer immeasurably.

The DoD uses a CI-scope polygraph only after individuals have been thoroughly investigated and favorably adjudicated. Nonetheless, DoD officials report that they have obtained significant security and counterintelligence admissions that were not developed through the prescreening and investigative process. The DoD catalogues and reports these results annually to Congress.

The utility of the polygraph in eliciting important adjudicative information is not in doubt. In addition, the Commission found that the suitability or "lifestyle" questions (particularly those that address criminal activity and illegal drug use) have always elicited the most information. Research studies have supported these views:

 \sim In 1980 a working group of the DCI Security Committee found that the polygraph examination process was superior to other investigative methods in eliciting adverse information that ultimately resulted in denial or revocation of access.

~ An April 1991 study by the Personnel Security Working Group, (an Intelligence Community interagency working group), unequivocally identified the polygraph as the most productive source of derogatory information in the screening arena, eliciting such information in 70 percent of the cases in which it is used.

 \sim A September 1993 CIA study cited the following polygraph benefits: it enables the CIA to forgo random drug testing for staff employees or those with staff-like access; it facilitates the flow of classified information within the organization; it enables the CIA to use minimal internal information systems security checks; and it reduces the need for domestic physical security countermeasures.

b. **Deterrence**: Screening polygraph programs arguably have a deterrent effect. Applicants who believe that the polygraph will elicit disqualifying information may be deterred from applying. Cleared personnel also may be deterred from misconduct because they know that they will be required to take a polygraph in the future. In fact, the CIA's Inspector General noted that the polygraph has been instrumental in reducing the incidence of fraud and other wrongdoing at the CIA. In addition, a 1993 study by the DCI's Counterintelligence Center and an Intelligence Community research project have concluded that *the polygraph is a significant espionage deterrent*.

c. Cost-Effectiveness: The CIA and the NSA, two agencies that routinely use full-scope polygraphs to screen applicants, present a strong case that the polygraph serves as an efficient and effective cost-containment hiring tool. When admissions made by a subject during a polygraph test result in a disqualification, these agencies are saved the considerable cost and time of conducting a background investigation. In addition, the CIA's Office of Medical Services reported to the Commission that full-scope polygraphs enable it to detect and screen out 50 percent to 75 percent of the most troubled applicants. They expressed concern that if the suitability questions were reduced or eliminated this would result in increased terminations for

cause, security breaches, and medical, legal, and administrative costs arising from contested terminations and increased psychiatric difficulties in the work force.

The following arguments have been made against the polygraph:

a. Lack of Scientific Validity: In 1983, the Congressional Office of Technical Assessments concluded that: "There appears, as yet, to be no scientific field evidence that polygraph examinations ... represent a valid test to prescreen or periodically screen government employees." A 1991 government review of the polygraph in personnel security applications reaffirmed the earlier study and concluded that "the number and quality of screening studies is insufficient to provide a basis for reliable estimates of validity." The Commission reviewed many other studies as well. The results of these studies were too varied to allow for definitive conclusions about the validity of the polygraph when used for personnel security screening. The Commission also met with various research experts in polygraph and related fields and learned that due to the extraordinary difficult of conducting screening polygraph validity research, the scientific validity of the polygraph is yet to be established.

Many polygraph proponents and some research experts believe that it is unnecessary to study the validity of the polygraph process, meaning its accuracy in distinguishing truth from deception. They contend that as long as the polygraph elicits admissions to screen out unsuitable applicants and actual security risks, questions about the polygraphs validity remain academic. However, if the polygraph does not have established scientific validity in the screening arena, judgments about truthfulness based solely on chart interpretation will continue to be controversial. Without established validity, the process lacks full integrity and appears more like trickery because information is obtained from subjects under the pretense that it is in their best interest to be forthright since false answers will be discovered. Furthermore, arguments could be made that the polygraph may not have the same effect on a nonbeliever; that is, unless the validity of the process can be demonstrated, there is nothing to prevent a practiced deceiver from passing a polygraph examination. In fact, circumstantial evidence lending credence to this view was documented by a President's Foreign Intelligence Advisory Board study in 1988.

b. Intrusiveness: Polygraph testing can be a highly intrusive and emotionally grueling process. Some claim that this results in lost talent when suitable individuals refuse to participate in a polygraph examination. Other individuals and organizations have argued that there can be no justification for the use of the polygraph. The Department of State has refused to use the polygraph for personnel security screening, even for those with access to the most highly protected information. The ACLU views the polygraph as an unacceptable invasion of privacy, an affront to human dignity, a violation of self-incrimination prohibitions, and an unreasonable search and seizure.

Comparison or control questions are frequently identified as the most intrusive aspect of the polygraph. Control questions are used to elicit untruthful or uncertain responses from subjects (for example, "have you ever violated the trust of a close friend?") Physiological

reactions to these questions are compared to reactions to the relevant questions (for example, "Have you ever committed a serious crime?"). It is assumed that "innocent" subjects will react more strongly to the control questions than the relevant questions, while the reverse will be true for "guilty" subjects. For this reason, "innocent" subjects frequently experience the control questions as intrusive or embarrassing (indeed, the intent is to generate some degree of discomfort) and worry that their responses will be kept in a permanent record.

The DoD has developed a less intrusive type of control questions called the directed lie. In this technique, the examiner directs the subject to lie in response to certain questions (the control questions) so that a physiological reaction can be obtained while lying. Directed lie control questions differ from other types of control questions in that the subject is specifically instructed to lie to these questions and no admissions are solicited or allowed. Knowing their true purpose, people generally experience these questions as less intrusive. Research is currently under way to further validate this technique.

As unpleasant as the polygraph process may be to some individuals, the Commission did not find any ground swell of antipolygraph feeling among the government and contractor personnel who are most heavily exposed to it. On the contrary, available surveys suggest the majority of those who take a screening polygraph believe that the examinations are conducted fairly and professionally.

c. Over reliance: In the absence of admissions, polygraph tests are not infallible: truthful subjects sometimes "fail" and untruthful subjects sometimes "pass." When the polygraph test results is used as a primary determinant of "truth," there will be occasions in which innocent people are falsely accused and guilty people avoid detection.

Despite assertions to the contrary, adjudicative decisions have been made on the basis of polygraph chart interpretations without admissions. Managers and security officers who make decisions based on polygraph test results need to be aware of the fallibility of the polygraph screening process. Also, the Commission is concerned that, in times of declining financial resources, agencies may be tempted to rely more on the polygraph at the expense of more thorough investigations, decreasing the checks and balances provided to the personnel security process by background investigations and financial checks and increasing the likelihood of spies being hired or allowed to continue espionage activities started after initial employment.

Recommendations

Despite the controversy, after carefully weighing the pros and cons, the Commission concludes that with appropriate standardization, increased oversight, and training to prevent abuses, the polygraph program should be retained. In the CIA and the NSA, the polygraph has evolved to become the single most important aspect of their employment and personnel security programs. Eliminating its use in these agencies would limit the effectiveness of security, personnel, and medical officers in forming their adjudicative judgments. However, the

Commission unanimously endorses the adoption of procedural safeguards and oversight (discussed later in this section) to ensure that the technology is used in a reliable, consistent, and ethical manner. We support the standardization of the process to ensure basic fairness and reciprocity. We believe that the intrusiveness of the procedure should be minimized and mechanisms should be put in place to resolve ambiguous results quickly and efficiently.

The Commission believes that polygraph examinations should be limited to CI-scope for all security screening examinations, except for applicants seeking staff positions at the CIA and the NSA. Almost all of the Commissioners believe that polygraph examinations for these CIA and NSA staff applicants can be restricted without reducing security benefits. The Commission recommends that polygraphs for applicants for CIA and NSA staff positions consist of only the CIA-scope questions plus questions on serious criminal conduct and recent drug use. This ensures uniformity between the two agencies and eliminates broader questions about financial problems, alcohol use, nervous or mental disorders, and falsification of any information on the personal history statement. The record indicates that the questions about serious criminal conduct and recent drug use are much more likely than the other questions to produce information of significant value in making security and suitability decisions. These restrictions on the polygraph for CIA and NSA staff applicants will limit its intrusiveness without sacrificing its security benefits. A CIA-scope polygraph should be used for all reinvestigations, even for CIA and NSA employees. One of the ten Commissioners believes that the CIA and the NSA should be permitted to use the questions currently being asked during applicant screening polygraphs examinations, with due regard for the need to standardize the questions as soon as possible.

The Commission is concerned about overreliance on the polygraph. Under the security scheme we have proposed, the polygraph would not be a general requirement for access to classified information: A NACI plus credit will be required for access to generally protected information and an SSBI for access to specially protected information. Nor would the polygraph necessarily be a requirement for access to multiple specially protected programs, as it is today in the DoD. Instead, the polygraph should only be an option in those rare instances when the Secretary of Defense or the Director of Central Intelligence approves its use for particular controlled access activities, or if required as a condition for staff employment at the CIA or the NSA.

The Commission recommends that:

a. The screening polygraph should be used by those DoD and Intelligence Community organizations that currently employ it as follows:

1) Polygraph examinations should be limited to CI-scope for all security screening examinations except for initial applicants seeking staff positions at the CIA and the NSA.

2) The screening polygraph examination of initial applicants at the CIA and the NSA should be limited to CI-scope plus questions on serious criminal conduct and recent drug use.

3) A CI-scope polygraph should be used for all reinvestigations, even for the CIA and the NSA.

b. The polygraph should not serve as a bar to clearance reciprocity or the exchange of classified or sensitive information.

c. The intrusiveness of control questions must be minimized, strict oversight must be established to prevent abuse, information elicited by control questions must not be kept in a permanent record unless it relates to criminal activity, and procedures must be adopted to ensure compliance with these requirements.

d. Physiological reactions, without admissions, to questions during a polygraph examination should not be used to disqualify individuals without efforts to independently resolve the issue of concern.

Oversight

The Commission is aware of the potential for abuse and the actual past abuses associated with polygraph programs. For example, in some instances examiners have pursued issues beyond the scope of the inquiry. we believe that the polygraph process must minimize intrusiveness as much as possible. This can be done by training examiners in less adversarial methods and by implementing rigorous quality control procedures. While a number of safeguards have been built into the current system (such as internal polygraph quality control procedures and Inspector General reviews), the Commission believes that an external, independent, centralized oversight mechanism is needed to monitor the programs and manage complaints. Such a mechanism would provide a focal point for tracking and investigating reports of abuse and ensure that the polygraph programs are responsive to the concerns of polygraph subjects.

The Commission recommends that an independent, external mechanism be established by the security executive committee to investigate and track polygraph complaints. This mechanism also should monitor and oversee the polygraph programs' compliance with standards and conduct periodic satisfaction surveys of polygraph subjects.

Standardization

The Commission found that the personnel security screening polygraph program is characterized by a complicated web of inconsistent and misunderstood practices. Agencies vary as to when or if it is required, where or how it is administered, the subject areas covered, and what techniques are employed in administering the tests. For example, the Commission finds no acceptable reason why the CIA and the NSA should cover different subject areas in their fullscope polygraphs. The Commission also is concerned that the same questions are worded differently and are therefore open to differing interpretations, decreasing confidence in the objectivity of the process. The Commission believes that these differences should be minimized.

The Commission recommends that standards be developed to ensure consistency in the administration, application and quality control of screening polygraphs.

The need for standardization and consistency is also evident in the contractor world. The NSA is the only agency that requires full-scope polygraphs for all contractors prior to granting access to compartmented information. The DoD requires only a CI-scope polygraph for their contractors, but generally grants access prior to (and sometimes without) administering a polygraph.³ The CIA requires only CI-scope for those contractors outside its facilities but full-scope polygraphs for those contractors with regular working access to its facilities and computer systems. Such inconsistent applications should be eliminated.

The Commission believes that enhanced efficiency and cost savings can be realized by establishing one organization to serve as the executive agent for conducting polygraphs on contractor personnel who do not require regular working access to government facilities. The executive agency would oversee the operation of joint polygraph facilities at strategic sites that would serve to maximize the efficient accomplishment of a maximum number of examinations. The executive agency would also coordinate the scheduling of all contractor polygraph examinations to economize on travel requirements. Most importantly, an executive agency would facilitate the standardization of the CI-scope polygraph as well as the reciprocal acceptance of polygraphs throughout the DoD and the CIA intelligence community. The joint investigative service (described in chapter 7) would be a logical organization to perform this service.

The Commission recommends that:

a) The CI-scope polygraph be adopted as the standard for all contractor personnel.

b) Polygraph examinations for all contract personnel working at contractor facilities be conducted under the auspices of a single entity.

³ NRO and CIA have approximately 40,000 contractors who have access and who have never been polygraphed.

Training, Research, and Development

Many believe that the single most significant variable in the polygraph process is the competency and integrity of the examiner. Any polygraph technique, no matter how benign, can be used in an abusive way by an improperly trained or misguided examiner. Competence is a primary requirement for ethical practice. For this reason, the Commission believes that it is essential for examiners to be formally trained and professionally certified under a single entity. Polygraph examiners also should be required to maintain professional certification through a formal continuing education program.

The Commission recommends that certification of polygraph examiners under the auspices of a single entity should be mandatory. mandatory requirements for recertification also should be established.

Most polygraph training is conducted at the DoD Polygraph Institute (DoD/PI), although the CIA trains its own examiners and some from the NSA. In the interest of efficiency and consistency, the Commission believes that all government polygraph training and certification should be conducted by a single entity. Incorporating the CIA training program into the DoD Polygraph Institute would standardize and enhance the quality of polygraph training provided by the government. The DoD Polygraph Institute also should be made a national or Federal polygraph institute and, if subject to relocation due to base closure, consideration should be given to locating the institute closer to its customer base.

The Commission recommends that the CIA polygraph school be consolidated into the DoD Polygraph Institute to form a national polygraph institute that would conduct all training and certification of government polygraph examiners.

The Commission believes that it is imperative the government establish the validity of the polygraph for personnel security screening. In the absence of admissions, the ability of the polygraph to distinguish between truthful and deceptive reactions is critical. While the Commission recognizes the difficulty of designing and conducting validity research on the screening polygraph, the dearth of such research is not acceptable. The Commission realizes that these recommendations have been made in the past, with little effect. A greater commitment must be made to sustain funding of research to establish the validity of the polygraph in personnel security screening applications.

The Commission believes that research is also needed to determine which polygraph techniques work best in which situations and with which subjects. The ongoing development of scoring algorithms and computerization would increase the objectivity of the polygraph process and provide a basis for addressing countermeasure threats. We also believe that research should explore more methods of detecting deception that could be used in conjunction with or in place of the polygraph.

The Commission recommends a robust, interagency-coordinated and centrally funded research program⁴ should be established with the DoD/PI as executive agent. The polygraph research program must concentrate on the development of valid and reliable security and applicant screening tests and standardize their use.

APPENDIX C.

COMMENT OF COMMISSIONER LAPHAM ON POLYGRAPH

The commission struggled hard to reach a consensus on issues relating to polygraph testing for personnel screening purposes. In the end, however, I decided to go my own way on these issues, and to prepare this separate statement of my views. I did so not because I disagree with all of the Commission's recommendations and conclusions--indeed, there are a number with which I agree--but mainly because I do not believe that the report contains an adequate or well-reasoned analysis of the issues, and because I believe that shortcoming impeaches even those recommendations and conclusions with which I do agree.

Polygraph testing is an obviously invasive procedure, the more so in screening contexts than in other applications. In the more typical setting, there is a single factual issue that needs to be resolved, or some single event that is known to have happened and that is under investigation. Therefore the scope of the test is apt to be narrow, as is the class of persons who may have some relevant information to provide. Screening polygraphs have no such natural limits. Almost by definition they affect larger classes of persons and sweep more widely for information. The goal is not to find out the truth about some event that is known to have happened, but rather to find out about the background and personal history of the person being examined. Given that purpose, multiple topics are within the field of inquiry, and the questions may range across an entire lifetime or a substantial period of years and may begin for example

⁴ The goals of the program are to:

⁽a) provide an arsenal of valid and reliable security and applicant screening tests based on scientific evaluation of existing tests in comparison with new tests;

⁽b) eliminate privacy-invading or personally offensive control questions;

⁽c) evaluate a variety of sensors, transducers, and recording devices to establish the most effective and noninvasive physiological data collection systems;

⁽d) develop algorithms that provide valid and reliable diagnostic results for each screening test that meets acceptable levels of validity;

⁽e) develop countermeasure detection algorithms for all screening tests;

⁽f) evaluate the effectiveness and utility of applicant screening tests;

⁽g) determine the deterrent effects of the screening polygraph;

⁽h) develop other tools for detecting deception that could be used in conjunction with or in place of the polygraph.

with the words "have you ever" or "within the last five years have you ever." The breadth of the inquiry is one reason why privacy interests are so deeply implicated by screening polygraphs, and especially by the full-scope tests that include the so-called "lifestyle questions."

There is also the matter of the surroundings in which the tests are conducted. The atmosphere is clinical. The chair is no more appealing than a dentist's chair. The technology is apt to be mysterious, and only one of the three machine-to-body connectors, the blood pressure cuff, is apt to be familiar. There is an underlying premise that something about to be said, or already said in a personal history statement, may be a lie. The examiner is a stranger, and the entire session, including the pretest interview and any posttest questioning, is being tape-recorded or videotaped and is destined to become a government record. Those circumstances are almost bound to make the test an unnerving and intimidating experience, even apart from the extent to which the questioning encroaches on privacy zones.

Privacy interests, however, are not the same thing as legitimate expectations of privacy. At least as I see it, any analysis of the polygraph procedure, like any analysis of other invasive techniques that are used to screen government personnel, such as drug-testing programs in which urine samples are required to be given, must involve a balancing of such privacy expectations against the governmental interests that are at stake, and ultimately a determination as to whether the procedure is reasonable. My personal conclusion is that the procedure is reasonable. At least implicitly the Commission reached the same conclusion, but I get there by a different route.

Governmental interests and individual privacy expectations

At a threshold level, the analysis is pretty simple, and the balance is clearly in favor of the government. Not long ago, in 1988, the Supreme Court said that the nation's security depends in large measure on the reliability and trustworthiness of CIA employees. That remark could just as well have been made with respect to others who occupy positions involving access to highly classified information. The self-evident point here is that the government has a compelling interest in assuring itself that such persons meet high standards. That interest necessitates a screening process. Individuals who seek intelligence agency positions, or other positions of equal trust, have every reason to understand and expect that such a process will be conducted, and that it will include a searching inquiry into their personal backgrounds. To be sure, there is room for disagreement about the appropriate scope of such inquiries, and as to the categories of information that are truly germane to the reliability and trustworthiness determinations that need to be made. In my opinion, however, so long as the inquiries stay within rational bounds and are carried out by lawful means, and with the consent of the persons affected, those persons can have no valid objections based on legitimate expectations of privacy.

Where the screening process entails a polygraph test, whether as a condition of initial or continued employment or as a condition of access, that fact is made known in advance, as are the topics to be covered. A decision to submit to the test is a matter of choice, requiring a voluntary consent by the person to be examined. In some cases that choice may be personally difficult, but then it is not the government's responsibility to make the screening process easy or painless. Nor can hard or difficult choices be equated with compulsion. A refusal to take a polygraph may have negative consequences, as for example the loss of a job opportunity at CIA or NSA, and there may be strong pressures to avoid those consequences, but this does not mean that a decision to take the test is forced or involuntary. While there are distinctions that can be made here between initial applicants for employment and persons who are already embarked on government or industry careers, and for whom therefore the pressures are undoubtedly greater, these distinctions are to some extent accommodated by the different test formats that are used and inn any event it is still true that the tests are known-in-advance requirements, are conducted on a consensual basis, and not inconsistent with any fair expectations of privacy.

The relevance of the questions

However compelling the government's interest, the intentional collection of personal information unrelated to that interest, especially by invasive techniques, is not defensible. The issue here is therefore whether a rational link exists between the kinds of conduct that are probed by the "relevant" polygraph questions and the reliability and trustworthiness determinations that the government must make. In other words, the issue is whether these questions are "relevant" not just because they are so denominated in a polygraph test, but because they are tied to conduct about which the government has legitimate reason to be concerned and to inquire.

My own belief on this scope is that, as the tests are currently structured, in both the fullscope format and the counterintelligence-scope format, all the relevant questions in the line-up deal with matters that are proper subjects of inquiry. Most of the controversy surrounds the socalled "lifestyle questions," which is the term commonly used to describe some of the questions that are asked when the test is given in the full-scope format, as it is to all applicants for CIA and NSA employment.

I view the term "lifestyle questions" as an unfortunate misnomer. The flavor of the term is that these questions have only to do with personal matters that are none of the government's business. In fact, however, the questions deal with such matters as prior criminal conduct, illicit drug use, alcohol abuse, and any history of serious financial or mental health problems. These same subjects are matters of inquiry on personal history statement forms and associated forms, and during background investigations. If they were judged to be irrelevant, they should be declared out of bounds on all these fronts, not just on the polygraph front. As I see it, however, all these subjects can readily be linked to reliability and trustworthiness concerns, and to establish adjudicative criteria. Indeed it is hard for me to imagine a credible screening process in which these subjects were not pursued.

At the same time, it is my opinion that some of the relevant questions, including some of the "lifestyle questions," as currently approved for use in screening polygraphs, are overly general and too broadly worded. As a consequence, as these questions are discussed between the examiner and the person to be examined during the pre-test interview, there is a high likelihood that personal information will be elicited, perhaps embarrassing information, that could have no value in any adjudicative decision. I would therefore favor an effort to rework some of the questions, so that they would have a sharper and more narrow focus at the onset, and so that there would be a lesser chance of eliciting irrelevant personal information. I would also like to see it become an explicit objective of polygraph examiners to minimize the incidental "take" of such irrelevant information. I believe these steps would shorten the tests, make them less intrusive, and reduce the number of retests that need to be given, all without any offsetting disadvantage.

Utility

I agree with the Commission's finding that polygraph testing has high utility as a personnel screening tool. The utility evidence is varied. It consists partly of data showing that large numbers of significant admissions are made during the interview phase of the procedure that takes place before the polygraph machine is ever activated and during the questioning that may follow after the machine is deactivated. There are also less tangible but nevertheless important utility considerations having to do with the deterrent effects of the procedure in relation to both applicants and employees, with the mutual trust engendered among employees by their common polygraph experience, and with the fact that the procedure is seen as eliminating the need for other personally invasive security safeguards, as for example random drug testing programs.

Without exception, the senior agency officials consulted by the Commission, having direct responsibility for polygraph screening programs, gave it as their opinion that these programs were the single most useful screening tool at their disposal, and were the linchpin of their personnel security efforts. Granting that these opinions hardly come from neutral sources, they are still worthy of respect and are made all the more significant when considered in the light of the Commission's recognition that personnel security is the most vital ingredient in any security system.

Validity

The question that lurks behind the utility evidence, particularly insofar as it consists of data showing success in the elicitation of admissions, is whether the procedure is otherwise a sham, and succeeds only because it is orchestrated in such a way as to make it appear to persons being examined that they have only two choices, one being to make admissions assuming they have something to admit and the other being to practice deception and be detected. In other words, as I see it, the fundamental validity issue is whether the promise of detection is an empty threat, and therefore whether the whole procedure is a trick, or whether within some range of probability the procedure can actually distinguish a true answer from a false answer. By endorsing various expert pronouncements that "The scientific validity of the polygraph [where used for personnel security purposes] is yet to be established," the Commission appears to come down ont he first side of this issue. As a consequence, when it goes on to recommend that polygraph screening programs be continued with certain modifications, the report apparently

adopts the position that, even though the procedure employed by these programs is or may be invalid, the programs should be maintained in any event because they are useful. If the lack-ofvalidity premise of that position is accepted, the programs are likely to be discontinued despite their utility.

I am not so ready as the Commission to write off screening polygraphs as lacking in scientific validity, in part because the Commission never explains what it means by that term, and even if I were ready to do so, I still would not quickly jump ahead to the separate conclusion that polygraph testing has no validity as a personnel screening tool. What follows is my own non-expert conception of the problem.

A polygraph machine monitors, usually on three channels, physiological reactions that are produced by persons as they respond to questions that can only be answered yes or no. The reactions show up as tracings on charts. The machine is not difficult to operate. There is no real dispute that it does what is designed to do--which again is only to monitor physiological reactions and make them visible in the form of chart tracings--and that it does so accurately.

The validity problem arises not because the machine is fallible but rather because it requires an inference to derive some meaning from the charts, and because there are numerous important variables that bear on the correctness and strength of such an inference, the theoretical basis for which may itself be open to debate.

As the Commission notes in its report, there is no physiological reactions or combination of reactions that is known to be a unique earmark of lying or deception. In isolation, therefore, any reaction or set of reactions to any one question is meaningless. So, for example, if I were placed on a polygraph machine and asked only the single question whether I was an agent of the foreign intelligence service of country X, and the truth was yes but my answer was no, the best polygraph examiner in the business could not make heads or tails of my physiological reactions to that question. It is only in relation to my reactions to other questions that the examiner could begin to make sense out of my reactions to the key "are you an agent" question, and have some basis for an inference that my answer to that question was false. That inference would proceed on the theory that I would have a heightened concern about the key question and therefore react more strongly to that question than to others that were asked for the purpose of eliciting reactions that could serve as points of comparison.

All polygraph tests rely on this essential theory. The charts are diagnosed, or scored, and inferences thus drawn in favor of or against the persons being examined, by comparing the reactions to the relevant questions with the reactions to other questions. Different polygraph examiners, including CIA and NSA examiners, use different examination techniques, and different types of questions to elicit the reactions that are then compared with the reactions to the relevant questions in order to score the test. Each of the different methods has its champions, but nobody has ever discovered the magic formula. No matter which technique is used, no matter how skilled the examiner, and no matter what scoring system is applied, the resulting diagnosis may

still be mistaken. If a truthful person is diagnosed as deceptive, the mistake is known as a "false positive." If a deceptive person is diagnosed as truthful, the mistake is known as a "false negative."

The accuracy and error rates of screening polygraphs are at best very difficult to estimate. The same is true in non-screening contexts, except in validity studies where mock crimes or some similar events are staged and the tests are then conducted in laboratory conditions, allowing the variables to be controlled. In such studies the guilty or innocence of the role-playing characters is known, although not to the polygraph examiner, and there is accordingly a stone tablet--a record of what is known in the business as "ground truth"--against which the examiner's conclusions can be cross-checked. Such tablets don't exist outside the laboratory, and even where they do exist, there is apt to be heated debate among experts about the design of the studies and about the extent to which their findings can be generalized.

None of this, however, leads me to believe that the use of polygraph testing for screening purposes is an unreasonable procedure. To say that polygraphy may not be an exact science is not at all to say that polygraphers cannot reach credible and reasoned opinions, let alone that such opinions can be dismissed as wild guesses. We are not dealing here with a procedure in which an examiner simply hooks up a machine, looks at the charts, and delivers a verdict. We are dealing instead with a much more careful procedure, one in which both the relevant and other questions are previewed and discussed with the person to be examined, and in which the examiner then seeks to adjust the relevant questions so as to eliminate possible causes of high-stress reactions not attributable to deception. We are also dealing with a procedure in which equally careful efforts are made, following a run on the machine that does not produce a "clear chart," to again eliminate, by further adjustments in the relevant questions, any high-stress reactions to those questions that could have causes or explanations other than deception. At the end of the procedure, if the high-stress reactions remain, there at a minimum is a rational basis for an inference that deception is the most probable cause of those reactions.

Where the Commission's report goes wrong, it seems to me, is in its apparent suggestion that the validity of polygraph testing is an all-or-nothing proposition. The sense of the report is that one or another of two propositions must be accepted--either the procedure is able to distinguish truth from deception with scientific accuracy, or it isn't able to distinguish anything at all.

If matters were this simple, the policy choices would be far easier than in fact they are. If polygraph testing produced results that were no better than random chance, say no better than the results that could be obtained by flipping coins, the arguments against it would be much stronger and might even be overwhelming, despite the utility evidence and the government's compelling interest in conducting an effective screening process. On the other hand, if polygraph testing results had the same degree of certainty as, say, the results of the testing of urine or blood samples, the arguments in favor of it would be much stronger, although for different reasons the technique would still be controversial. As it is, however, at least in my opinion, the reality is somewhere in between, probably much closer to the high end of the scale than to the coin-toss end but nevertheless at a point on the scale where there is some significant chance that opinions may be mistaken. The hard policy problem for any manager or adjudicator then becomes how much credence can or should be given to such opinions, and who should bear the burden of the doubt, the government or the individual.

The Commission's report does not lay any of this out, but instead sidesteps and masks this policy problem by its treatment of polygraph validity as an all-or-nothing proposition, and leaves what I regard as a false impression both as to the state of the art today (the inference being that validity is zero) and as to the promise of research tomorrow (the inference being that something approaching absolute validity might be established.)

I am a strong supporter of further basic research, but I have also come to appreciate the challenge of designing high-yield research projects in this field, and I believe that any advances in knowledge will come slowly and in small increments. Again, in my view the opinion products of polygraph testing, assuming the competence of the examiner, are rational inferences either that a person is probably telling the truth or probably being deceptive, or perhaps that the results are too inconclusive to support an inference one way or the other. It may well be that a procedure that is so dependent on the competence of an examiner, and that deals in inferences about probabilities, could never meet exacting standards of scientific accuracy, no matter how extensive or well designed any future research projects might be.

If my conceptions are right, any DCI, Director of NSA, or Secretary of Defense who wishes to maintain polygraph screening programs, now or in the foreseeable future, will have to accept the uncertainly of accuracy rates, and the inevitability of some false positive outcomes, as facts of life. Likewise inevitable are some false negative outcomes. On that side the possibility that the polygraph can be "beaten," by physical countermeasures or otherwise, adds something, although nobody can say how much, to the accuracy rate uncertainty. Insofar as polygraph testing results may play a decisive role in connection with security approval decisions, these uncertainties mean that some deserving individuals will be screened out, and some undeserving individuals, conceivably even a trained foreign agent from whom we have the most to fear, will make their way through.

These uncertainties, however, need to be kept in perspective. While polygraph tests may not be scientifically exact, the other available means of investigating a person's background are anything but foolproof themselves. Personal history statements, personal interviews, and background investigations can be, and often are, carriers of information that is false, distorted, or misleading, purposely or otherwise, and record checks are not guaranteed to be reliable either. Even in the best of circumstances, the information derived from these other sources does not meet, nor is it expected to meet, any scientific accuracy standards, and may be low-grade in terms of its value and credibility. If anything, polygraph testing is less open to being faulted on these grounds, particularly considering the fact that it so often leads to admissions that have undoubted reliability. Given a choice between two screening regimes, one of which would involve a

personal history statement and the other traditional non-polygraph means of investigation, and the other of which would involve a personal history statement plus only polygraph testing, my guess is that CIA and NSA would vote for the second every time. However, there is no reason to make that choice, because better decisions are likely to be made when all sources of information are used in tandem.

Whether I am right or wrong in any of this, I do not think that any major policy shifts should be based on non-expert judgments concerning a set of issues that are as technically complex as the issues related to the validity of polygraph testing procedures used to screen personnel.

Recommendations of the Commission

I will turn now to the various recommendations contained in the Commission's report. Before doing so, however, I want to comment about one of the other statements in the Commission's report with which I strongly disagree. In its catalogue of pro-polygraph arguments, the report includes an alleged argument relating to "cost-effectiveness," and goes on to say that both CIA and NSA present a good case that "[w]hen admissions made by a subject during a polygraph test result in a disqualification, these agencies are saved the considerable cost and time of conducting a background investigation." As far as I know, neither CIA nor NSA has ever said that polygraph testing is conducted in order to save money. What they have said is that it makes more sense to conduct the testing, as they do, at the front end of the screening process, rather than as a last step in that process, because when things were done in the reverse sequence, as was formerly the case, too often the background investigation would be successfully completed only to find that the applicant made disqualifying admissions during the polygraph test. The real argument here is that polygraph testing often turns up information that background investigations do not. Cost effectiveness has nothing to do with whether such testing is conducted, only when it is conducted. Counting cost effectiveness as a pro-polygraph argument is incorrect and only serves to belittle the serious pro-polygraph position.

Scope. The Commission's first three recommendations relate to the scope of the relevant questions to be asked on screening polygraphs conducted by DOD and intelligence community agencies.

The first recommendation is that all such testing be limited to the so-called "CI-scope" questions, except in the case of applicants seeking staff positions at CIA or NSA. As I understand it, this recommendation is principally aimed at the testing of contractor personnel, who today are required to take to so-called "full-scope" tests. I agree with the recommendation. My reason for that agreement is that, as I see it, contractor personnel are in a somewhat different position, so far as concerns their legitimate expectations of privacy, than applicants for full-time staff positions at CIA or NSA. The latter are seeking careers that would given them continued and wide-ranging access to highly classified information over a long period. The former are apt to be persons who are already embarked on careers in industry, which they may well have

undertaken without any reason to believe that their personal backgrounds would ultimately be the subject of searching inquiry by the government, and who in any event may have only less wide-ranging and only temporary access to highly classified information. In my view these considerations support the recommendation.

The second recommendation is that the testing of applicants for staff positions at CIA and NSA be limited to the so-called "CI-scope" questions plus questions about serious criminal conduct and recent drug use. The rationale is that the other questions currently asked on the socalled "full-scope" tests do not produce much useful information and therefore should be eliminated, producing a cost-free benefit in the form of a reduction in intrusiveness. In my judgment, as I have said, the other questions are not objectionable on relevant grounds, and I would be slow to discard them without a fuller cost-benefit breakout than I think the Commission has ever seen.

The third recommendation is that all reinvestigation polygraphs be limited to CI-scope questions. This recommendation would simply continue current practice.

Reciprocity. The Commission's fourth recommendation is that "the polygraph should not serve as a bar to clearance reciprocity or to the exchange of classified or sensitive information." This recommendation is not explained in the report, and I am not sure what problem it is meant to correct, or what the correction would be.

Control questions. The fifth recommendation is a large mosaic of several ideas: that "the intrusiveness of control questions be minimized;" that there be strict oversight to prevent abusive control questions; that information elicited by control questions not be kept in a permanent record unless it relates to criminal activity; and that appropriate compliance procedures be adopted and enforced.

The predicate of this recommendation is a finding in the report that "control questions are frequently identified as the most intrusive aspect of the polygraph." I do not agree with the finding, which I believe is based on several misconceptions, but I do agree that there is probably room to narrow the scope of control questions, just as I believe that there should be some narrowing of the relevant questions. So far as concerns the idea of keeping no permanent record of information elicited by control questions, I am very doubtful that this idea makes any sense, although it may deserve further study. If the idea were to be implemented, it presumably would require that the audiotape or videotape be edited. This would involve the partial destruction of these records, even though one of the purposes for which they are kept is to assure their availability in the event of any complaint about misconduct or overreaching by the examiner. Further, these records are held very closely, and I am unaware of any evidence that came before the Commission of any instance in which there was an improper release or any misuse of the kind of information to which the recommendation relates. While the recommendation calls for implementing procedures, it is impossible to know what sort of procedures the report might have in mind.

Over-reliance. The Commission's sixth recommendation is that "physiological reactions without admissions, to questions during a polygraph examination should not be used to disqualify individuals without efforts to independently resolve the issue of concern." This recommendation is low in clarity. What kinds of efforts would be required to "independently resolve the issue of concern," and what could happen if those efforts failed? Suppose there were two equally well qualified applicants for the same position, and the polygraph tests resulted in an examiner's opinion of probably deception in one case but not the other. Would that then mean that, absent some confirmation of the probable deception opinion, these results had to be ignored in making the decision as to which applicant to hire? The recommendation raises more questions than it answers, and provides no useful guidance.

Oversight. The seventh recommendation is that a new independent and external mechanism be established to investigate and track polygraph complaints. It is a given that polygraph programs should be subject to rigorous and effective oversight. This recommendation is made, however, without any real review of existing oversight structures, or any real effort to show how or why those structures might be inadequate, or any indication of how the new "mechanism" would be expected to operate. If the existing oversight is ineffective, obviously it should be improved. But within CIA, for example, there is already oversight within the Polygraph Section of The Office of Security, and there is also a special oversight panel (The Polygraph Complaint Oversight Board) which includes a representative of the Office of General Counsel and that was formed in mid-1992 for the explicit purpose of resolving polygraph-related complaints, not to mention the Inspector General's office. Surely any recommendation calling for additional oversight should be based on some showing, which the report does not contain, that these checks and safeguards are insufficient.

Standardization. The Commission's eighth recommendation is that "standards be developed to ensure consistency in the administration, application and quality control of screening polygraphs." There is already a trend in this direction, and I agree that further steps should be taken. I do not understand, for example, why the relevant questions, in whichever of the two basic formats the tests are given, should be different depending on which agency is conducting the test.

The different practices to which this recommendation relates, however, are overshadowed by circumstances that the Commission report barely even mentions.

Polygraph screening programs are not in effect, and have virtually no chance of being placed into effect, in parts of the government where highly sensitive national security information is handled on a steady basis. So, far example, no screening polygraphs are given to State Department employees at any level, or to officials in the national security apparatus at the White House, or to members of the defense and intelligence committee staffs in the Congress, although many of these persons have access to much of the same information as intelligence agency employees, or to equally sensitive information. Even in DOD, the program has a very spotty application, if only because of the numerical limit on screening polygraphs imposed by the Congress. Among other things, high-ranking civilian employees are essentially exempt, and many high-ranking military personnel are also unlikely to be affected.

If the programs are truly important to the protection of national security information, the question that obviously waits to be asked is why the programs don't have more general coverage and acceptance. If they are needed in one place, why not in another? The Commission's report never asks this question. Instead it cites, and singles out for criticism, various differences in the ways in which polygraph screening programs are administered at CIA and NSA. These differences are small matters, however, compared to the double standard that exists by virtue of the fact that such programs are used in one form or another by both these agencies, and seen by both as indispensable security measures, but are not used in any form by other agencies whose personnel have access to the same or equally sensitive information. From a broad policy perspective, it is this double standard, not the much more minor differences cited by the Commission, that has real significance, because it points to a security system that taken as a whole is lacking in coherence and logic.

I am frankly at a loss to know where any of this leads, but there is at least a need to raise these considerations and make them part of the debate.

Certification. The Commission's next recommendation is that "certification of polygraph examiners under the auspices of a single entity should be mandatory" and that "mandatory requirements for recertification also should be established." I do not know what this recommendation means. As I understand it, polygraph examiners who complete the training curriculums at the DOD Polygraph Institute or at the CIA polygraph school already receive certificates reflecting their successful completion of training programs approved by the American Polygraph Association. Further as I understand it, that Association views these programs as the finest of their kind in the country. I agree of course that superior training is a must, because competence and professionalism on the part of examiners are key elements in any polygraph program, but here again I have no basis to be critical of the way in which DOD or CIA polygraphers are trained, and the report provides no such basis.

National polygraph institute. The Commission's next recommendation is that "the CIA polygraph school be consolidated into the DOD Polygraph Institute to form a national polygraph institute that would conduct all training and certification of government polygraph examiners." This recommendation does not appear to have any cost cutting rationale, since none is mentioned in the report. Instead the stated objective is to "enhance the quality of polygraph training provided by the government." If such was the likely outcome, I would favor the recommendation, but here again the report provides no supporting reasons that point to such a likely outcome, and the recommendation has the feel of one that was made just for the sake of moving some furniture around.

Research. The Commission's last recommendation is that "a robust interagencycoordinated and centrally funded research program should be established with DOD/PI as

executive agent," and that this program "concentrate on the development of valid and reliable security and screening tests and standardize their use." I have already said that I am a strong supporter of further basic research. DOD/PI already conducts a broad research program, however, and I am not sure how the Commission would want to see this program redirected. Nor do I understand how it could be the function of any research program to "standardize" the use of polygraph tests. Only management decisions could have that result. Further, the wording of the recommendation suggests by implication that polygraph screening tests, as currently administered, have no validity or reliability, and I do not agree with that implication, which may not have been intended.

Closing thoughts

I am not blind to the fact that screening polygraphs, for many people, are hateful experiences. The one such test that I took in my own life, which was one of the full-scope models, was certainly no picnic. It is only natural for people to think of themselves as patriotic, and fit to serve in government positions of trust should the opportunity to do so come along. All probably resent the idea that their honesty 'or integrity might be impugned by a polygraph examiner armed with a set of form questions and a strange technology. But there are higher stakes here, because mistakes can have fateful consequences for the country. Somewhere among us (no reference here of course to any members of the Commission) there are some bad apples. Others among us, whatever we may thing of ourselves, do not meet the standards of reliability and trustworthiness that the government is entitled to set, and indeed must set if there are to be any personnel security controls at all rather than a system in which all comers are accepted, no questions asked. The standard-setting alone is a difficult job, and judgmental to the core. So is the sorting process. I end up believing that polygraph testing is a reasonable step in that process.

I am also well aware of the fact that polygraph testing has a high potential for abuse. There are few clear roadsigns here, however, and except in obvious cases, as for example if an examiner pursues unauthorized lines of inquiry, abuses are hard to define. I favor an effort to develop an agreed set of ethical guidelines, beyond any that exist today, that would apply to the conduct of screening polygraphs. I also favor the other steps to which I have referred in this statement, but in substantial part I do not favor the Commission's recommendations, and for that reason and the others I have already stated, I concluded that I could not join in the Commission's report.

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CRIME AND SECURITY RISK

By

Richards J. Heuer, Jr.

EXECUTIVE SUMMARY

A history of illegal or dishonest behavior is a security concern because it indicates an individual may be inclined to break rules. Willingness to abide by rules is an essential qualification for any individual cleared for access to the nation's secrets.

While the existence of a criminal record can provide grounds for security disapproval, the absence of a criminal record indicates only that no information is available. It cannot, and should not, be construed as evidence that an individual has not engaged in criminal activity.

Crime is widespread, but records of criminal activity are very incomplete. A large portion of crime is not reported to police. Many crimes that are reported never lead to arrests. Many of those arrested are never prosecuted or convicted. And even for those who are convicted, records checked during security clearance investigations are quite incomplete. Records checks identify only the tip of the iceberg of criminal activity.

Only 38% of crimes against individuals are reported to police, and an even larger proportion of crimes against businesses go unreported. For example, shoplifting and theft by retail employees are common, but even those few offenders who are caught are seldom reported to police. Most businesses handle these and other economic crimes, such as fraud and embezzlement, internally (through job termination, restitution, demotion), through civil litigation, or by writing them off as a cost of doing business.

On average, only 22% of the FBI Crime Index offenses reported to law enforcement agencies during 1990 led to arrests. Since only a fraction of crimes are reported, and only a fraction of those reported crimes are solved, the data on persons arrested greatly understate the number who actually committed crimes.

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Offenses not processed by the criminal justice system are obviously not recorded in criminal history databases. Even for offenses handled by the criminal justice system, records are often misleading or incomplete. For each 100 persons arrested by police on felony charges, only 55% are actually prosecuted, and about 22% of those are convicted only of a misdemeanor. The arrest is generally recorded in state and local agency criminal databases, but disposition of the case after arrest is estimated to be recorded only about 60% of the time.

Much information is missing from the FBI Headquarters files examined as part of the National Agency Check (NAC). A study of Illinois state adult offender files found that about 50% of adults whose arrests were recorded in the state file were not recorded in FBI files. Most centralized state files are also incomplete; that is, there is considerable slippage between local and state files as well as between state and federal records. This should be an important consideration when determining the scope of investigation required for various types of clearances.

Military service recruits who admit previous felony or misdemeanor offenses are accepted only after they are granted a "moral waiver." A study of several hundred thousand moral waiver cases with admitted felony or misdemeanor offenses found that only 10% had a record in FBI Headquarters files as identified by the Entrance NAC conducted on all military recruits. This is attributable, in part, to juvenile offenses not normally being recorded in the FBI files.

Records of juvenile crimes are maintained in separate systems that, in most states are far less complete, accurate and automated than records on adult criminals. Different states have different procedures for sealing, expunging, or limiting access to juvenile records to ensure that juveniles have an opportunity to change and make a fresh start.

In the absence of complete and accurate criminal records, past criminal behavior is likely to be discovered only by self-admission, interviews with references or developed sources, or polygraph examination. Since shoplifting and theft by retail employees are the most common unreported crimes, interviews of applicants and sources should perhaps focus on these areas. Psychological assessment may identify antisocial personality characteristics commonly associated with criminal behavior. When such personality characteristics are present, more intensive investigation may be appropriate or this alone may justify disapproval.

This report also provides information on the prevalence of selected types of crime in society as a whole, the likelihood that an arrested person will be prosecuted and convicted, the extent to which past criminal behavior predicts future criminal behavior, the relationship between crime and substance abuse, and passage of time as a mitigating factor when evaluating an individual with a criminal record.

Crime is even more prevalent than many people realize. Law enforcement agencies made an estimated 14 million arrests in 1990 for all criminal infractions except traffic violations. If each arrested person were arrested only once, this would be 5.8% of the total U.S. population arrested in one year. Many offenders have multiple arrests during the course of a year, however, so the 14 million arrests does not involve 14 million different individuals. Many of the offenses were not serious. On the other hand, young children and the elderly are unlikely to be arrested at all, and females are far less likely to be arrested than males. This means the chance of arrest for a member of the group at greatest risk, males age 15 to 40, is substantial.

A study of males born in 1956 found that 33.9% of the whites (including Hispanic) and 65.5% of the blacks in this age group in California had been arrested at least once for a felony or serious misdemeanor by the time they reached age 29. Only arrests as adults after age 18 were counted in this study; juvenile arrests were excluded. If we limit the data to only the most serious offenses (the eight FBI Crime Index offenses), we find that 14.8% of while male adults and 40.8% of black male adults were arrested for an index offense by age 29.

Evidence that past criminal behavior predicts future criminal behavior supports adjudication standards that disqualify individuals with a significant criminal history. Of 79.000 convicted felons sentenced only to probation in 1986 (*i.e.*, not the most serious felons), 46% had been rearrested and sent to prison or jail or had absconded (whereabouts unknown) within three years. Another 19% had a disciplinary hearing within 3 years for violating a condition of their probation. After 5 to 10 years have elapsed with no further arrests, the chance of rearrest is quite small.

The picture is different with juveniles. The vast majority of juvenile offenders get into trouble only once or twice and stop offending as they mature. However, chronic juvenile offenders (five or more arrests before age 18) are at high risk at becoming adult criminals. One study found that 45% of chronic juvenile offenders became chronic offenders as adults.

In brief, past criminal behavior as an adult is a useful predictor of future behavior, so crime is a valid area of security concern. Criminal records alone have so many limitations as a source of information on past criminal behavior that records checks need to be supplemented by other means of collecting information on this issue.

INTRODUCTION

Various federal orders and directives set forth criteria for access to sensitive information. They specify that criminal conduct and any pattern of law violations will be weighed when determining whether an individual is stable, trustworthy, and of excellent character, judgment and discretion as required for access.

Background information on criminal behavior is potentially useful to investigators, adjudicators and others involved in the security clearance process. The data in this study fall into six general categories:

Richards J. Heuer, Jr.

 \sim Prevalence of crime in society as a whole, especially those types of illegal behavior most likely to be found in the backgrounds of applicants for security clearance.

 \sim The criminal justice process, especially the likelihood that an arrested person will be prosecuted, or that a prosecuted person will be convicted, including the likelihood that conviction will be for a lesser offense that does not look as bad on the record.

 \sim Quality of criminal history records, including the likelihood that relevant records will be missed by a National Agency Check or local records check, or that information that is found will be incomplete or misleading.

~ Prediction of criminal behavior based on previous criminal record, juvenile delinquency, integrity tests, and psychological tests.

~ Relationship between crime and alcohol and drug abuse.

 \sim Passage of time as a mitigating factor when evaluating an individual with a criminal record.

Crime is an act or omission that threatens the welfare of society and is punishable by judicial proceedings in the name of the government. The case is brought by a government prosecutor defending the interests of society as a whole. This differs from a civil offense, when a complaint is lodged by one individual against another. A civil case is brought by the plaintiff's attorney, and the punishment is compensation for injury received rather than imprisonment. Civil offenses are not discussed in this report, although repeated involvement in civil litigation may indicate undesirable personality characteristics.

Criminal offenses are commonly divided into felonies and misdemeanors, and the distinction is significant for clearance processing. A felony is usually defined as a criminal act punishable by incarceration in a federal penitentiary or state prison for one year or more, or by death. A federal felony is a violation of federal law such as espionage, counterfeiting, kidnapping, bank robbery, postal fraud, and interstate transportation of stolen goods. A state felony is a violation of state law such as murder, burglary, aggravated assault and battery, grand larceny, auto theft, and rape.

A misdemeanor is usually understood as an offense that is punishable by fine or imprisonment for up to one year. Time is usually served in a city or county jail rather than in a state prison. Examples of misdemeanors are retail theft, petty larceny, trespassing, possession of marijuana, disorderly conduct, and resisting arrest. The distinction between a felony and misdemeanor varies a little from state to state. For example, some states have a category of high misdemeanor that is similar to felony, and the federal system has petty offenses for which the maximum penalty is a fine of \$500.

Conviction for a federal or state felony causes an individual to lose certain civil rights, *i.e.*, a convicted felon cannot vote, hold public elective office, practice certain professions and occupations, or purchase a gun. A felony conviction can be mitigated only if there were very unusual circumstances or substantial time has elapsed during which the individual has committed no other offenses.

The impact of a misdemeanor on security depends upon the nature of the offense and the circumstances under which it was committed. Criminal behavior will normally be disqualifying if it involves: force, coercion, or intimidation; firearms, explosives, or other weapons; dishonesty or false statements such as fraud, embezzlement or falsification of documents; obstruction or corruption of government functions; deprivation of civil rights; violence against persons; an established pattern of criminal conduct whether or not the individual was convicted; failure to complete a rehabilitation program resulting from a previous criminal proceeding; or if there is a close and continuing association with persons known to be involved in criminal activities.¹

CRIME AND PERSONNEL SECURITY

A history of illegal or dishonest behavior is important because it indicates an individual may be inclined to break rules. Willingness to abide by rules is an essential qualification for any individual cleared for access to the nation's secrets.

Studies of issues that arise during background investigations have determined that criminal behavior generally ranks as the third most common issue, after substance abuse and financial problems. These studies also show that criminal behavior is often associated with other security issues such as alcohol and drug abuse.²

Organizations involved in national security work are obliged to protect themselves against more than just espionage. They need protection against a wide variety of crimes against the

¹ Department of Defense Regulation 5200.2-R.

² Lewis, P.A.W., Koucheravy, E.P., & Carney, R.M. (1990). Issues developed in background investigations conducted by Defense Investigative Service. PERS-TR-90-004. Monterey, CA: Defense Personnel Security and Education Center. Wiskoff, M.F. & Fitz, C.C. (1990). Analysis of issue types and clearance adjudication. PERS-TR-91-006. Monterey, CA: Defense Personnel Security and Education Center. Carney, R.M. (1991). Evaluation of DCID 1/14 investigative requirements. Washington, D.C.: CIA, IC Staff, Personnel Security Working Group.

Richards J. Heuer, Jr.

organization (embezzlement, procurement fraud, sabotage, and theft of government property, for example) as well as other crimes that affect the work place (drug dealing, illegal gambling, assault on coworkers, theft from other employees, and prostitution). Crimes such as embezzlement and procurement fraud involve a betrayal of organizational trust which is similar in many respects to espionage.

The security significance of criminal behavior depends on the individual's intentions and actions, not on the final outcome of legal action. Many criminals are never caught. Of those who are arrested, many are not prosecuted or are acquitted for technical, legal reasons unrelated to the individual's guilt or innocence. Many who commit felonies are convicted only of a misdemeanor as a result of plea bargaining. The available legal record may be incomplete or misleading to security adjudicators. These points are discussed further below.

Mitigating circumstances that might justify approval despite a criminal record include age at time of offense, nature and circumstances of the offense, and amount of time elapsed since the offense. People do change, but as a general rule of adjudicators should require positive evidence of change, not simply the passage of time. Evidence of change might be a change in associates and lifestyle, a pattern of responsible behavior, or results of detailed psychological evaluation. Continuing evidence of aggressive, antisocial, irresponsible, or high-risk behavior should contribute to a decision against approval despite the passage of time since the criminal offense.

National security organizations have a vested interest in maintaining high standards. In his book on dishonesty in the workplace, Hollinger makes this observation:

Many industrial security experts have warned that if an employee is exposed to *laissez faire* attitudes toward honesty, there is a good likelihood that this attitude will carry over into subsequent work experiences. ... we have learned that the work environment which tacitly ignores or tolerates petty incidents of dishonesty is also the same climate which may cultivate further unethical activity in a variety of other settings.³

Most government organizations and private businesses do not know and cannot measure accurately how much they suffer from different types of crime by employees or outsiders. "The professional business literature contains many accounts indicating that when companies do gather the necessary data, they are often surprised at the magnitude of losses they have been sustaining."⁴

³ Hollinger, R.C. (1989). Dishonesty in the workplace: A manager's guide to preventing employee theft. Park Ridge, IL: London House Press, pp. 10-11.

⁴ Baker, M. & Westin, A. (1987). *Employer perceptions of workplace crime*. Washington, D.C.: Bureau of Justice Statistics, Department of Justice.

There is no really good figure on the financial costs of crime. Economic losses to U.S. business from employee theft were conservatively estimated in 1988 as ranging from \$15 to \$25 billion per year.⁵ This is greater than the annual economic losses to victims of personal and household crimes, which in 1986 were estimated at not quite \$15 billion.⁶ According to two studies conducted in the 1970s, about 15% of the cost of retail goods sold in the U.S. goes to pay for theft.⁷ Fraud, embezzlement and other forms of crimes against business and government organizations account for many more billions of losses annually. The U.S. Chamber of Commerce estimated in 1974 that about 30% of business failures that occur each year are precipitated by or related in some way to employee dishonesty.⁸

PREVALENCE OF CRIME

Introduction

Many people commit an occasional dishonest act while continuing to consider themselves law-abiding, honest citizens. They rationalize that everyone is doing it, they are only taking what they deserve, or it is not harming anyone. Most of these illegal actions are never detected and never reported. They don't show up in crime statistics. They are not uncovered by routine security investigations. They may, however, be revealed voluntarily or show up as unexplained reactions during a polygraph examination.

⁷ Department of Commerce (1975). Crime in retailing. Washington, D.C.: Author. And American Management Associations (1977). Crimes against business: Recommendations for demonstration, research, and related programs designed to reduce and control non-violent crimes against business. Washington, D.C.: National Institute of Law Enforcement and Criminal Justice, p. 88.

⁸ Chamber of Commerce of the United States (1974). A handbook of white collar crime. Washington, D.C.: Chamber of Commerce.

⁵ Shepard, I.M., & Duston, R. (1988). *Thieves at work: An employer's guide to combating workplace dishonesty*. Washington, D.C.: Bureau of National Affairs.

⁶ Bureau of Justice Statistics (1990). *BJS data report, 1989.* Washington, D.C.: Department of Justice, p. 47.

Richards J. Heuer, Jr.

Criminologists believe that an overwhelming majority of people have committed at least one crime without detection, and a substantial proportion have broken the law more than once.⁹ This may take various forms.

 \sim It may be common pilfering such as taking ashtrays or towels from a hotel room. Security experts estimate that one of every three hotel guests takes some piece of hotel property upon departure.¹⁰

 \sim It may be a financial offense such as padding an insurance claim or failing to report income on an income tax return. After the Internal Revenue Service first required banks and corporations to report all interest and dividend payments to individuals so that these payments could be matched against what the recipients report, the amount of interest and dividends reported on individual tax returned increased by 45%.¹¹

 \sim In some cases, the individual may be unaware the action is illegal--for example, paying a maid or regular babysitter more than \$600 per year without paying Social Security and unemployment compensation insurance.

~ Many other offenses such as malicious mischief, disorderly conduct, bribery, perjury, indecency, or assault may result from an uncharacteristic lapse in judgment or discretion, often during one's youth. An often-cited 1947 study, entitled *Our Law-abiding Lawbreaker*, found that 99% of respondents admitted committing at least one offense from a list of 49 such offenses that carried sentences of not less than one year. None of the respondents had been arrested or classified as a criminal.¹²

The security significance of previously undetected and unprosecuted offenses may be unclear. Certainly willingness to admit such an offense during polygraph examination is a

¹¹ The President's Commission on Law Enforcement and the Administration of Justice (1967). Task force report: Crime and its impact -- an assessment. Washington, D.C.: U.S. Government Printing Office, p. 103.

¹² Wallerstein, J. & Wyle, C.J. (1947). Our law-abiding lawbreakers. *Probation*, <u>25</u>, 107-112.

⁹ Pursley, R.D. (1984). Introduction to criminal justice (3rd ed.). New York: Macmillan, p. 90.

¹⁰ Lasky, M.S. (1974, January 27). One in three hotel guests is a towel thief, *Bible* pincher or worse. *The New York Times Travel Section*.

mitigating factor, as are remorse and changes in one's life and attitudes since the offense was committed. Adjudication of such cases should be based on the whole person test.

Source of Crime Statistics

There are two principal sources of statistics on prevalence of crime in American society. The Uniform Crime Reports (UCR) published annually by the Federal Bureau of Investigation (FBI) since the early 1930s collate information on crimes reported to police and on arrests nationwide. Federal, state and local law enforcement agencies voluntarily transmit to the FBI information on 29 types of offenses. For eight major crimes, known as "index offenses," the data include information on age, race, and number of reported crimes solved. Data are not as complete for the other 21 offenses.

In 1973, the Department of Justice initiated the annual National Crime Survey (NCS), which last year was renamed the National Crime Victimization Survey (NCVS). In the 1990 survey, 95,000 people age 12 and over in a representative sample of 47,000 housing units were interviewed about crimes directed against them personally during the previous 6 months.

The Uniform Crime Report and the Crime Victimization Survey each have marked strengths and weaknesses. Most crimes are never reported to the police, so they are not included in the UCR. Many of these unreported crimes against individuals are reflected in the NCVS, but the NCVS covers only household and personal crimes where the individual is the victim; it does not cover crime against organizations such as embezzlement, fraud, shoplifting, or arson.

The victimization studies were started in 1973 in part because so much crime was believed to be going unreported. The first victimization survey confirmed this belief, showing that the number of robberies and aggravated assaults was about four times the number recorded by local police departments. Since then, programs have been developed to encourage reporting of crime to the police, to keep better local records on crime, and to standardize procedures including reporting to the FBI. The steady increase in crime shown in the FBI's annual reports reflects, in part, the success of programs to improve reporting procedures rather than an increase in crime.

The victimization surveys rely on data collected the same way year after year, so this is the better source when analyzing changes in the crime rate over time. When questions or procedures are changed, controls are used so that changes do not skew the comparison of data from one year to the next. The FBI's crime reports, on the other hand, rely on administrative data generated by thousands of different law enforcement agencies in a slightly different way each year. Improvements in reporting procedures for the UCR significantly reduce the validity of comparisons over time, especially when comparing current crime rates with the rates of 10 to 20 years ago. Most economic crimes are handled outside the criminal justice system and are not captured by either the UCR or NCVS. There is no system for recording economic crimes or tracking their frequency. Economic crimes are defined as:

... illicit behavior having as its object the unjust enrichment of the perpetrator at the expense of the economic system as a whole and its individual components. The consequences of economic crime are increased costs that are passed on to customers and taxpayers and that place a financial burden upon business, the government, and, ultimately, the public.¹³

Economic crimes may be either white collar crimes or ordinary crimes. Examples of white collar crimes are embezzlement, government procurement fraud, tax evasion, bankruptcy fraud, insurance fraud, consumer fraud, corporate bribery, computer crime, securities fraud, illegal dumping of hazardous waste, and money laundering. Ordinary economic crimes include employee theft and shoplifting. With the exception of burglary and robbery against business, most economic crimes are not reported to police. They are handled internally (job termination, restitution, demotion, etc.), through civil litigation, or are written off as a cost of doing business. As one senior security consultant has said, "If all the crimes against business were dumped on the criminal justice system, it would collapse in a day."¹⁴

This report on crime and security risk does not give statistics on the prevalence of every type of crime. After discussing trends in crime as a whole, it presents prevalence data only on several very common crimes unlikely to be uncovered by a criminal records check (shoplifting, employee theft from retail establishments, family violence) and serious crimes that might be committed against the government (embezzlement, fraud).

Caution is appropriate when using statistical data about the prevalence of any type of behavior, as such information may be misleading and can be misused. Statistics that apply to the overall population will generally be different from frequency rates found in a self-selected and pre-screened pool of persons undergoing security processing.

Overall Crime Statistics

According to the Uniform Crime Reports, law enforcement agencies made an estimated 14 million arrests in the United States during 1990. This is equivalent to 5.8% of the U.S. population being arrested during that one year. In many cases, however, one person was arrested multiple times during the year, so the number of individuals who committed crimes was

¹³ Cunningham, W.C., Strauchs, J.J., & Van Meter, C.W. (1990). The Hallcrest Report II: Private security trends, 1970-2000. Boston: Butterworth-Heineman, p. 20.

¹⁴ Joseph Rosetti, former corporate director of security for IBM, cited in Cunningham, Strauchs, & Van Meter (1990), *ibid.*, p. 296.

considerably less than 5.8%. A relatively large proportion of crime is committed by a relatively small proportion of the population. Equally important, the incidence of crime varies greatly for different demographic segments of the population.

One of the more useful studies of criminal participation looked at all males born in 1956 and arrested as adults in California for "retainable"¹⁵ felony and misdemeanor offenses between 1974 and 1985. In other words, this study excluded juvenile offenses but tracked adult offenses for this group from age 18 to age 29.¹⁶ The number of arrests were compared with the total California population in this age group to determine the percentage arrested for the first time during any given year and the cumulative percentage arrested at least once by age 29.

In 1974, the first year when members of this age group turned 18, 4.8% of California males in this age group were arrested after their 18th birthday. In 1975, the first year in which all those born in 1956 were considered adults for the entire year, 5.8% were arrested for the first time. By 1985, when this age group turned 29, 1.8% were arrested for the first time. The probability of a first-time arrest decreases as one gets older as those most prone to commit crimes have already done so and many have already been caught. Also, increased maturity often leads to more responsible behavior.

Figure 1 shows the cumulative probability of a white or back male born in 1956 being arrested in California between age 18 and age 29. By age 29, 33.9% of the white (including Hispanic) and 65.5% of the black males have been arrested at least once. If the data are limited to only the most serious offenses included in the FBI Crime Index, 14.8% of white males and 40.8% of black males were arrested for an index offense by age 29. Other studies show roughly similar figures. Studies that include juvenile arrests show a somewhat higher lifetime arrest rate.

The higher rate of criminal participation by blacks than whites may be due, in part, to differential law enforcement. Because police anticipate a higher crime rate for blacks, police may watch blacks more carefully and arrest them more readily than whites.

¹⁵ The criterion was "retainable offenses," which include most felonies and misdemeanors in which defendants are booked and fingerprinted. The major offenses excluded are: most misdemeanor traffic offenses (including driving under the influence), public drunk (unless under the influence of drugs), possession of not more than 28.5 grams of marijuana, violations of local ordinances, and offenses for which incarceration is not a possible punishment.

¹⁶ Tillman, R. (1986). The prevalence and incidence of arrests among adult males in California. *BCS Forum*. Sacramento: California Department of Justice, Bureau of Criminal Statistics.

A number of studies have found that the rate of participation in crime by males is 3 to 5 times greater than for females, and that the participation rate for black females is somewhat higher than for white females.¹⁷



Cumulative Probability of Arrest

Figure 1

Statistics on how many people are arrested represent only the tip of the iceberg of serious criminal offenses. Many reported crimes are never solved, hence do not lead to arrest. Many other crimes are never reported at all. The UCR reports that 22% of Crime Index offenses reported during 1990 were "cleared," which in most cases means the offender was arrested and turned over to the court for prosecution. The clearance rate was 46% for violent crimes and 18% for property crimes. The NCVS found that only 38% of all criminal victimizations were reported to police. Broken down by type of crime, 48% of violent victimizations, 41% of all household crimes, and 29% of personal thefts were reported.

¹⁷ Blumstein, A., Cohen, J., Roth, J.A., & Visher, C.A. (Eds.). (1986). Criminal careers and "career criminals." Washington, D.C.: National Academy Press, p. 3.
If 38% of crimes are reported and 22% of those reported lead to arrests, this suggests that the chance of a specific crime leading to arrest are only about 8%. Owing to significant differences in the UCR and NCVS databases, this 8% figure is only a rough approximation.

The national survey of crime victimization asks questions about the offender as well as the victim. In 1990, survey respondents reported that 86.6% of violent crimes (rape, robbery, assault) were committed by males, 13% by females. About one third of the offenders were under age 21, one third age 21 to 29, and one third age 30 and over. About 62% of the crimes were committed by persons the victim perceived as white (which in this survey includes Hispanics) while 27% were perceived as black and 8% other. While more whites than blacks committed rape and assault, completed robberies were more likely to be committed by blacks (55.4%) than whites (32.4%), and many more blacks than whites completed the robbery without injury to the victim.

The UCR data on age, sex and race of violent criminals is very similar to the above results of the crime victimization survey. The UCR also analyzes arrest rates by region of the country and whether the arrest occurs in an urban or rural area. In 1990, the arrest rate was highest in the West with 6,404 arrests per 100,000 population. It was lowest in the Midwest, with 5,133 arrests per 100,000 persons. There were interesting regional variations for specific crimes. Murder rate in the South was almost twice the rate in the Northeast. Arrests for robbery per 100,000 inhabitants were almost three times greater in the Northeast than in the Midwest. Aggravated assault, burglary and motor vehicle theft rates were roughly twice as high in the West as in the Midwest. Offenses against family and children were almost three times greater in the Northeast than in the West. The arrest rate for driving under the influence was twice as high in the West as in the rest of the country, while rate of arrest for simple drunkenness was 18 times greater in the South than in the Northeast.

Nationwide, the rate for all arrests was 5,805 per 100,000 inhabitants, but the rate varies greatly depending upon size and type of population. In cities with over 250,000 population, the rate was 7,989 per 100,000 while cities with populations between 10,000 and 24,999 had a rate of 5,580. The rate was 4,419 in suburban counties and 3,636 in rural counties.

Is Crime Increasing?

Efforts to answer this deceptively simple question illustrate the difficulties in dealing with crime statistics. The answer depends upon whether we are talking about the absolute number of crimes or the crime rate per 100,000 inhabitants, the type of crime, and the time period. The answer also depends upon whether we use the UCR or the NCVS as a source of information.

For the UCR, the FBI has developed a Crime Index which serves as a summary indicator of changes in the rate and type of crime. Eight crimes are counted in the Crime Index: the violent crimes of murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault and the property crimes of burglary, larceny-theft, motor vehicle theft, and arson.

According to the UCR Crime Index, the number of crimes counted in the Crime Index increased by 7.8% from 1981 to 1990. However, if one adjusts for the fact that population increased during this same time period, the rate of crime per 100,000 inhabitants actually decreased by 0.6% during this time period.

Whether crime is increasing or decreasing also depends upon the time period over which comparisons are made. According to the NCVS, crimes of violence decreased by 9.2% from 1973 to 1990, decreased by 16.3% from 1981 to 1990, but increased by 5.1% from 1986 to 1990. The murder rate may be the best indicator of long-term trends in violence, as almost all murders are reported to the police and reported by the police to the FBI.

An American's chance of being murdered was relatively low in the 1950s and early 1960s. It doubled between 1964 and 1974, remained high from 1974 to 1980, declined significantly between 1980 and 1985, and edged back up in the late 1980s. In 1989 the murder rate was higher than it had been from 1983 to 1988, lower than it had been from 1972 to 1982, and higher than it had been from 1950 to 1972.¹⁸

As noted above, there are two fundamentally different sources of statistics on crime in America. The Uniform Crime Reports prepared by the FBI are based on crime reported to police. The National Crime Victimization Survey conducted by the Department of Justice is based on a survey of American households. It is possible to make a direct comparison between these two sources for five different types of crime. Table 1 compares UCR and NCVS findings for the change in crime rate per 100,000 inhabitants from 1981 to 1990.

While there are a number of potential sources of error in all these statistics, the NCVS figures are more accurate when comparing trends over a 10-year period. The UCR numbers are skewed by improvements over time in law enforcement reporting procedures. As reporting procedures become more thorough, crime appears to be increasing. In 1973, for example, citizens told the national crime survey that they reported about 861,000 aggravated assaults to the police, but the police recorded and reported to the FBI only 421,000 cases. By 1988, citizens said they reported 940,000 aggravated assaults to the police, and the police recorded and reported 910,000 cases. The same pattern holds for robbery and rape.¹⁹

In short, crime statistics can be presented and interpreted in a number of misleading ways. The public perception that crime is increasing is due, in part, to the media's bias toward reporting bad news. Reports that crime is increasing are more newsworthy than surveys showing crime decreasing. Reports of increased violence in New York and Washington receive more press

¹⁸ Jencks, C. (Winter, 1991). Is violent crime increasing? The American Prospect, pp. 98-109.

¹⁹ Jencks, C. (1991), op.cit.

coverage than corresponding decreases in San Diego, Atlanta or Omaha. And journalistic reports that murder or some other crime has reached an all-time high commonly fail to take into account that the population also reached an all-time high.²⁰

Table 1

Comparison of UCR and NCVS, Changes in Crime Rate Per 100,000 Population From 1981 to 1990²¹

| Crime | UCR | NCVS |
|---------------------|---------|--------|
| All Violent Crime | +23.15% | -16.3% |
| Rape | +14.4% | -32.5% |
| Aggravated Assault | +46.4% | -18.3% |
| Robbery | -0.7% | -23.7% |
| Motor Vehicle Theft | +38.6% | +20.1% |

Shoplifting

While hard statistics are not available, shoplifting of small, concealable items is extremely common and is estimated to cost retailers \$5 to \$25 billion annually.²² Various studies have shown that about 20% of fifth- and sixth-graders, 47% to 63% of high school students, and 40% of college students admit to having shoplifted at least once, although in many cases it was a one-time offense. Although a large portion of shoplifters are juveniles, it is not a majority. Most shoplifters are from the middle class, not from the lowest socioeconomic groups. This is not a crime motivated largely by economic need. A majority of shoplifters have on them the cash or

²² Woo, J. (1992, Sept. 9). Most states now have laws permitting stores to impose civil fines on shoplifters. *The Wall Street Journal*, p. B1.

²⁰ *Ibid*.

²¹ Federal Bureau of Investigation (1991). Crime in the United States: Uniform crime reports, 1990. Washington, D.C.: U.S. Department of Justice, Table 1. And Bureau of Justice Statistics (1992). Criminal victimization in the United States, 1990. (NCJ-134126). Washington, D.C.: U.S. Department of Justice, Table 4.

credit cards needed to pay for the stolen items.²³ Although this is a minor offense, shoplifting by an adult not in desperate need reveals important information about an individual's character.

Most shoplifters will not be identified by a routine check of criminal records. Only a small fraction of those who commit the crime are detected. Of those who are detected, even those observed in the act by store detectives, most are handled without being arrested. Of those who are apprehended, most are not turned over to police for prosecution. One private security service reported that only 35.3% of shoplifters apprehended over a 12-year period were reported to the police.²⁴ From a store's perspective, there is little to be gained by prosecution of the offender, but a great deal might be lost. Stores are vulnerable to expensive law suits for false arrest if the charge cannot be proven, and efforts to deliberately set stores up for a false arrest charge are not unusual. Prosecution is also expensive, as it takes the detective and often one or two other store personnel away from their jobs to participate in the legal proceedings. Formal criminal charges and prosecution are most likely if the shoplifter is believed to be stealing merchandise in order to resell it or return it for refund of the "purchase" price.²⁵

During the past several years, most states have developed a new and far more effective procedure for dealing with shoplifting. Store owners in 43 states can now impose civil fines on shoplifters which range from \$40 to three times "actual damages," depending on the state. Without ever going into the criminal court system, the store owner may turn over collection of the fine to a lawyer or collection agency. In the case of a juvenile, the store owner may collect from the shoplifter's parent. If the fine is not paid, the store owner can sue in civil court.²⁶ This procedure is noteworthy, as it makes it even less likely than before that past shoplifting will be identified by a criminal records check.

Employee Theft

The impression of security personnel and retail store managers is that employee theft outranks shoplifting as a source of loss to retail merchants. Most authors agree that between 50% and 60% of retail employees steal, in one form or another, from their employers, but in this context "stealing" includes misuse of the employee discount, selling merchandise to friends at a

²⁴ Griffin, R. (1978). Shoplifting--a twelve-year review, 1966-1977. Van Nuys, CA: Commercial Service Systems.

²⁵ Cameron, M.O. (1970). The five finger discount. In Smigel, E.O., & Ross, H.L. (Eds.), *Crimes against bureaucracy*. New York: Van Nostrand.

²⁶ Woo (1992), *op.cit*.

²³ Baumer, T.L., & Rosenbaum, D.P. (1984). Combating retail theft: Programs and strategies. Boston: Butterworth Publishers, Chapters 2 and 3.

discount, and reporting incorrect hours worked. In many cases, the items taken have minimal value. Many rationalize their actions as not stealing.

In a survey of 1,408 retail employees in the Minneapolis area, 60% admitted at least one type of illegal activity, but only 12% admitted taking merchandise without paying for it. The most common activity was misuse of the employee discount, with 57% engaging in this behavior.²⁷ In many cases, misuse of the employee discount may be beneficial to the store, as merchandise is still sold at a profit and the alternative may be no sale at all.

A 1973 survey of 1,188 retail stores determined that about 3% of employees had been apprehended engaging in "dishonest acts." The most common action taken against these employees was dismissal with an attempt to recover merchandise. Only 31% of those apprehended were prosecuted.²⁸

For employee theft, like shoplifting, a check of criminal records is a very imperfect source of information on past transgressions. If the individual fails to disclose these behaviors, they may be a source of unexplained reactions on a polygraph examination.

Family Abuse

Spouse abuse and child abuse are not specifically identified in the FBI's crime reporting statistics or the crime victimization survey. Most cases of abuse within the family are not reported to police authorities. Those that are may be included in the statistics on assault, sex crimes, and disorderly conduct, or not recorded at all. Information on abuse within the family is available only from studies specifically designed for that purpose. Even then, the prevalence of abuse depends upon how it is defined. When does child discipline cross the line to become child abuse, for example? When does abusive behavior toward a spouse or child cross the line between undesirable behavior and criminal action? It is widely believed that abuse is under-reported even in the most carefully conducted studies, as it is so often concealed by the victim as well as the perpetrator.

Two studies on family violence are available to compare the frequency of various types of violence against spouses and children in 1975 and 1985. Although reporting of family violence to social workers and police increased greatly from 1975 to 1985, surveys using a national probability sample of households indicate that the frequency of violence decreased significantly. There are many possible explanations for this, including improved procedures for

²⁷ Clark, J.P., Hollinger, C., Smith, L.F., Cooper, P.W., Parilla, P.F., & Smith-Cunnien, P. (1979). *Theft by employees in work organizations--a preliminary final report*. Minneapolis: University of Minnesota Press.

²⁸ Mass Retailing Institute (1973). Store thieves and their impact: A profile of criminals caught in self-service stores, and the losses they cause. New York: Author.

reporting family violence, increased availability of treatment facilities, and changing norms of acceptable behavior and spousal relationships.²⁹

According to the 1985 data, 1.9% of children age 3 to 17 were subjected to some form of "very severe violence" by a parent during the previous 12 months. Very severe violence was defined as kicking, biting, punching, beating, threatening with a gun or knife, or using a gun or knife. It does not include discipline by hitting with an object such as a stick, hair brush or belt. Some form of violence by the husband directed toward the wife was reported by 11.3% of the 1985 respondents. For 3% of the respondents, this was classified as "severe violence," which includes all the actions listed above as "very severe violence" plus hitting with something. It excludes minor violence such as throwing something, pushing, grabbing, shoving and slapping.

One researcher has suggested that only 1 of each 270 incidents of spouse abuse is ever reported to the authorities.³⁰

It is difficult to compare the frequency of spouse abuse in civilian and military populations, as the reporting mechanisms and incentives for concealment are different. Some researchers believe the rates of reported and unreported physical abuse of spouses and children are slightly higher among military families, but that rates of child neglect and psychological abuse may be higher in civilian populations.³¹

Substantiated cases of spouse abuse in the military have been reported at 1.19% or 11.9 cases per 1,000 couples.³² Surveys of spouses suggest the actual rate is higher, however. A survey of military spouses in Europe found that 5% of the wives responded that they had been hit by their spouse during the previous year.

Within the military services, the rate of confirmed child abuse is three times as high (16.6 cases per 1,000) among the lowest ranks (E1-E3) as among the next lowest ranks (E4-E6).³³ One

²⁹ Straus, M.A., & Gelles, R.J. (1986). Societal change in family violence from 1975 to 1985 as revealed by two national surveys. *Journal of Marriage and the Family*, <u>48</u>, 465-479.

³⁰Roy, M. (1977). Battered women: A psycho-social study of domestic violence. New York: Van Nostrand Reinhold.

³¹ Dubanoski, R.A., & McIntosh, S.R. (1984). Child abuse and neglect in military and civilian families. *Child Abuse and Neglect*, <u>8</u>, 55-67.

³² Department of Defense, OSD (1988, July 7). DOD child and spouse abuse statistical report, fiscal year 1987. Washington, D.C.: Author.

³³ Department of Defense (1988), op.cit.

might speculate that this is due to immaturity, financial stress, and difficulty in adjusting to military life away from one's home environment.

Family violence is commonly part of a cycle of violence that has a broad impact on society. A child who grows up in a home in which there is abuse is likely to be abusive toward his or her own child or spouse. About 30 out of 100 children from violent families will be abusive toward their own families in the next generation,³⁴ as compared with 3 out of 100 in the general population.³⁵ The social impact of family violence extends far beyond the family, as child abuse is associated with a future of crime, addiction, and emotional disturbance. Children from violent homes are "three to four times more likely than children from non-violent homes to engage in illegal acts ... and to be arrested."³⁶

Embezzlement and Fraud

Embezzlement and fraud are particularly relevant, as they are crimes akin to espionage. They are nonviolent crimes that make use of deception against organizations. Embezzlement always involves using a position of responsibility to betray trust that has been placed in an employee.

Little is known about the prevalence of embezzlement and fraud, as most organizations handle such cases internally to avoid unwanted publicity or because it is less expensive. Employees are fired or reassigned, individuals are required to make restitution, or the loss is simply written off as a cost of doing business. As a result, UCR statistics on arrests for embezzlement and fraud tell little about the actual prevalence of these offenses, but they do reveal interesting patterns about who is arrested for these offenses.

During the period 1981 to 1990, arrests for embezzlement increased by 87%, more than for any other category of crime. According to the UCR, the female arrest rate for embezzlement increased 164% from 1981 to 1990, as compared with 57% for males and 31% for all arrests. This may result from the increase of women in the work force in positions of trust where embezzlement is possible. Arrest for fraud increased by 46% for females and 22% for males. Most of the increase in embezzlement by females came during the early 1980s. In 1990, 59% of those arrested for embezzlement were males 41% females. For fraud, the comparable figures were 56% male and 44% female. The ratio of females to males arrested for embezzlement and fraud was higher than for any other crime except prostitution. The most common age for arrest

Polygraph, <u>23(1)(1994)</u>.

³⁴ Kaufman, J., & Zigler, E. (1987). Do abused children become abusive parents? The American Journal of Orthopsychiatry, <u>57</u>, 186-192.

³⁵ Gelles, R.J., & Straus, M.A. (1988). Intimate violence. New York: Simon & Schuster.

³⁶ Gelles & Straus (1988), op.cit., p. 129.

of both males and females for either embezzlement or fraud was age 25 to 39. Twice as many whites as blacks were arrested for embezzlement and fraud in 1990, which is roughly comparable to the ethnic distribution of all arrests.

Table 2

Increase in Arrest for Embezzlement From 1981 to 1990³⁷

| All Arrests for Embezzlement | +89% |
|------------------------------|-------|
| Males | +57% |
| Females | +164% |
| Arrests for All Offenses | +31% |

The rate of arrest for embezzlement is far higher in the South (which includes Maryland, Virginia and Washington, D.C.) than in any other region--10.2 per 100,000 population in the South, 6.2 in the West, 3.7 in the Midwest, and 2.5 in the Northeast. The arrest rate for fraud is also significantly higher in the South than in any other region. The rate of arrest for embezzlement is two to three times higher in cities between 100,000 and 249,999 population than it is in either the largest cities or in smaller cities or rural areas. The fraud rate, on the other hand, is twice as high in rural counties as in the largest cities.

PROSECUTION OF CRIME

Figure 2 shows the typical disposition of each 100 felony arrests brought by the police for prosecution.³⁸ Many cases are dropped or dismissed. Of all the people arrested on felony charges, 54% are convicted, and only 32% are sentenced to serve time in a correctional institution.

³⁷ Uniform Crime Reports, 1990, op.cit., Table 27-28.

³⁸ Boland, P., Mahanna, P., & Sones, R. (1992). *The prosecution of felony arrests, 1988.* (Report No. NCJ-130914). Washington, D.C.: Department of Justice, Bureau of Justice Statistics.





Many cases are dismissed before they get to court for insufficient evidence or legal technicalities unrelated to guilt or innocence. To avoid the cost and uncertainties of a trial, many other cases are plea-bargained from a felony charge to a plea of guilty to a misdemeanor, which generally involves far less serious consequences for the defendant.

For felony arrests which lead to conviction, more than half of the convictions are obtained for misdemeanors rather than felonies.³⁹ Records of these cases may be incomplete or misleading. This is important, because DCID 1/14 treats felonies different from misdemeanors. When evaluating criminal behavior, the primary considerations are the individuals' actions and intentions, not the final outcome of the legal process. There is a security concern if the person knowingly and intentionally participated in actions that show disregard for the law, whether or not the individual was caught, prosecuted, or convicted.

QUALITY OF CRIMINAL HISTORY RECORDS

The criminal justice system needs accurate criminal history records to identify habitual criminals, make appropriate bail and pretrial decisions, determine sentences, make decisions on release from correctional supervision, and identify felons who attempt to purchase handguns.

³⁹ Smith, P. (1993). Felony defendants in large urban counties, 1990 (Report No. NCJ-141872). Washington, D.C.: Department of Justice, Bureau of Justice Statistics.

Many federal and state laws now require use of criminal history information when making these decisions.⁴⁰ The U.S. Government also relies on these records for security clearance investigations.

Unfortunately, the quality of these databases leaves much to be desired. The National Agency Check (NAC), which includes a check of FBI Headquarters records, is often the first step in the investigative process. For a wide variety of reasons, the FBI files contain only a fraction of the data on criminal offenses available through state and other local agencies. Several Defense Department studies have provided insight into how much criminal history data is missed when a check is limited to the national level.

Over the 12-year period from FY 1977 through FY 1988, over 300,000 military service recruits admitted previous misdemeanor or felony convictions and were, therefore, accepted into the service only after the granting of a "moral waiver." Only 10% of those who admitted a prior record had a record in FBI Headquarters files as identified by the Entrance NAC conducted on all military recruits. In other words, the FBI Headquarters files failed to show the arrest record for fully 90% of the recruits who voluntarily admitted to such a record.⁴¹ Part of the reason for this very low hit rate is that juvenile arrest records are not normally forwarded to the FBI, and juvenile crime represents a large part of the criminal history of military enlistees. However, many adult arrest records are also not forwarded for a variety of reasons that differ from state to state. One principal reason is that many reports received by the state from local jurisdictions are not complete enough to meet requirements for inclusion in the FBI database.

For another study now under way, adult arrest records were checked on all recruits who entered the military services from the state of Illinois. About 10% those who entered the services during the period FY 1984 through FY 1987 had one or more arrests recorded in the Illinois adult offender files, but only about 5% had an arrest record with the FBI. In other words, about 50% of adults whose arrests were recorded in the Illinois state file were not recorded in FBI files. With respect to the specific offenses of robbery and burglary, 35% were not recorded in FBI files.⁴²

⁴¹ Flyer, E.S. (1990). Characteristics and behavior of recruits entering military service with an offense history. Report prepared for the Director for Accession Policy, Office of the Assistant Secretary of Defense (Force Management and Personnel), secondary analysis of Table 2. Note that the Entrance NAC differs from a standard NAC only in that a technical fingerprint search is not included.

⁴² Flyer, E.S., *Illinois adult offender study*, in process. Personal communication, July 1992.

⁴⁰ Bureau of Justice Statistics (1991). Statutes requiring the use of criminal history record information. (Report No. NCJ-129896). Washington, D.C: Department of Justice.

There is also considerable slippage at the local and state level; that is, most centralized state files are also quite incomplete. The most common failing is lack of reporting on the disposition of those who have been arrested. Only about half of all arrests lead to conviction. Many who are arrested, fingerprinted, and reported to the state's central criminal records repository are subsequently not charged with a crime, are charged but not prosecuted, or are prosecuted unsuccessfully, and these subsequent actions are often not reported to the state repositories, most experts believe the disposition of cases is reported for only about 60% of reported arrests.⁴³ Another weakness is that expunging, setting aside, or pardoning felony convictions may not be recorded in the state repository, or it may result in the record of the felony conviction being removed from the file. A 1985 survey estimated that between 20% and 35% of criminal history records in most systems, nation wide, are materially inaccurate or ambiguous.⁴⁴

The first comprehensive survey of criminal history records in all 50 states was completed in 1990.⁴⁵ It describes the status of state records as of the end of 1989. Tables 3 and 4 are reproduced from this study. Table 3 is a state-by-state overview of state criminal history record systems. Table 4 is a state-by-state summary of what state laws require be reported to the central state repository.

The Department of Justice is promoting improvement of state criminal history records. A report entitled "Recommended Voluntary Standards for Improving the Quality of Criminal History Record Information" was published in the *Federal Register* on February 13, 1991. A 3-year Criminal History Record Improvement Program started in 1991 to assist states in upgrading records quality at their central repositories. The Crime Control Act of 1990 required each state that receives grant funds under the program to set aside 5% of its award for the improvement of criminal justice records. Twenty-five states now participate to some degree in the Interstate Identification Index (III), a national index being developed to link together the state repositories. The national index will contain personal identification data on individuals whose criminal records are maintained in state record repositories or by the FBI.⁴⁶

⁴³ Bureau of Justice Statistics (1988). Public access to criminal history record information, (NCJ-111458). Washington, D.C.: Department of Justice.

⁴⁴ SEARCH (1985). Criminal justice information policy: Data quality of criminal history records. Washington, D.C.: Bureau of Justice Statistics.

⁴⁵ Barton, S.J. (1991). Survey of criminal history information systems. (NCJ-125620). Washington, D.C.: Department of Justice, Bureau of Justice Statistics.

⁴⁶ See Bureau of Justice Statistics (1991). National conference on improving the quality of criminal history records: Proceedings of a BJS/SEARCH conference. (Report No. NCJ-133532). Washington, D.C.: Department of Justice.

Table 3

Overview of State Criminal History Record Systems, 1989

| | Percent of record | Fully | Number of subjects | | Percent of arrests in database which have final dispositions recorded | | System flags | System has information to identify |
|----------------------|-------------------------|----------------------|-----------------------|------------|---|------------------------|-----------------------|--|
| State | in master name index | master name index | State crimin Total | Automated | All arrests | within past 5 years | felony convictions | felony convictions |
| Total | <u> </u> | | 45.676.400 | 27.421.500 | | | | |
| Alabama | 1000 | ¥ | 1 000 000 | 500.000 | -204 | | | 6 N |
| Alexan | 100% | 106 | 1,000,000 | 102,000 | < 3076 | | | AU AU |
| America | 100 | | 743,000 | 123,000 | | 2270 | | A II |
| Anzona | 100 | 10 | 742,100 | 263,300 | ••• | • • • | Some | same |
| Arkansas | 100 | No | 580,000 | 0" | 20 | 30 | | |
| California | 100 | Ya | 4,500,000 | 3,000,000 | 75 | 85 | Some | All |
| Colorado | 100% | Yes | 489,000 | 489,000 | 10% | 10% | | |
| Connection | 100 | Yes | 401,400 | 230,700 | | 95 | | |
| Delaware | 95 | No | 600,000 | 500,000 | 35 | | | Some |
| District of Columbia | 100 | No | 427,000 | 0 | | | | |
| Florida | 100 | Yat | 2,427,900 | 2,297,900 | 49 | 47 | Same | Same |
| Georgia | 100% | Ya | 1.055.000 | 1.055.000 | 43000 | ADE | | |
| Hawaii | 100 | Yes | 270 500 | 270 500 | | 70 | | A11 |
| Idaho | 100 | Y. | 105,000 | 105 000 | 50 | 40 | A 11 | 64 |
| Illinois | 36 | No | 2 152 300 | 1 \$52 300 | 50 | 50 | A11 | |
| Indiana | 100 | Ya | 670 000 | 70,000 | 50 | | ~ u | Same |
| Dimens | | | 010,000 | 10,000 | ••• | ••• | | Juiz |
| lows | 100% | Yes | 300,000 | 130,000 | 75% | 80% | | |
| Kansas | 100 | Yes | 520,000 | 15,000 | | 77 | | Some |
| Kentucky | 70 | No | \$35,100 | 385,100 | | ••• | | Some |
| Louisiana | 100 | Yas | 1,449,000 | 484,000 | | ••• | | All |
| Maine | 68 | No* | 270,000 | 0 | 90 | 95 | | Some |
| Maryland | 100% | Yas | 649,300 | 449,300 | | 60-82% | | Some |
| Massachusetts | | Yes | 5.039.800 | 1.039.800 | 100% | 100 | | Some |
| Michigan | 100 | Yas | 771,800 | 771,800 | 64 | 45 | | Some |
| Minnesota | 100 | Yes | 190,600 | 115,600 | 65 | 80 | | All |
| Mississippi | 100 | No* | 350,000 | 0 | 30 | 50 | | All |
| Missouri | 100% | Ya | 958.600 | 772.200 | 50% | 75% | | 4 (A) |
| Montana | 100 | Yas | \$6,000 | \$6,000 | 80 | 20 | | All |
| Nebraska | 100 | Nio | 300.000 | 120.000 | 50 | 50 | | |
| Novada | 100 | Ya | 31,300 | 31,300 | 60 | 60 | | A11 |
| New Hampshire | 100 | Ya | 155,000 | 144,000 | 35 | 75 | | LA LA |
| New Jerrey | 100% | Yes | 1 090 200 | 835.200 | 90% | 805 | | All |
| New Mexico | 100 | Yes | 207.000 | 0 | 20 | 20 | | AU |
| New York | 88 | Ya | 3 812 100 | 3 108 700 | 80 | 75 | A B | 7.B |
| North Carolina | 100 | Yes | 432.800 | 357,200 | 86 | 95 | Some | Same |
| North Dakots | 100 | No | 202,000 | 43,300 | 30 | 80 | | Some |
| Ohio | 35 æ | Nin | 2 315 700 | 586 700 | 45% | 50% | | |
| Oklahoma | 100 | Yes | 500.000 | 165.000 | | | | |
| Oregon | 100 | Yes | 548 500 | 548,500 | 65 | 65 | Same | Some |
| Pennevivania | 100 | Ya | 1 265 800 | 488 200 | - | 20 | Some | All |
| Rhode Island | 100 | Yas | 156,900 | 156,900 | | | | All |
| South Caroline | 100% | Ya | 577 000 | 500 000 | 77 CL | 754 | | Some |
| South Dakor | 100 | Ya | 144 000 | 24 000 | 60 | 75 | A11 | 1999 - 1999 |
| Tennersee | 100 | No | 500.000 | 0 | •• | | <i>/</i> ·- | Come |
| Teras | 100 | Ya | 3 789 500 | 3 739 500 | 40 | 40 | | Same |
| Utah | 100 | Ya | 430,200 | 330,200 | 50 | 70 | | All |
| Vermoni | 100% | Yes | 118.000 | 0 | 105 | 004 | | A 11 |
| Virginia | 100 | Ya | 744 000 | 418 100 | 86 | 6 5 | ▲ 11 | |
| Washington | 100 | Ya | 474 100 | 474 100 | 40.50 | 40.50 | Same | |
| West Virginia | 100 | No* | 650,000 | 0 | | 70 | ALAR 1994 | |
| Wisconsin | 100 | Yes | 491,000 | 270.000 | | | A11 | |
| Wyomine | 100 | Ya | 62 000 | 52 000 | 60 | 60 | | Same |
| | | | | 22,000 | ~~ | | | |

Note: Percentages and numbers reported are results of estimates. Numbers have been rounded to the nearest 100. Percentages have been rounded to the nearest whole number. The figures contained in the column "Number for figures (of fight) a figure for the figures. of subjects (individual offenders) in State criminal history file" apply only to the

criminal history file, including partially automated files, and do *not* include the master name index. Final dispositions include release by police without charging, doclination to proceed by prosecutor, or final trial court disposition. State is fully manual. Not available.

^aRespondent indicated that re-establishment of the Advansas computerized criminal history file was scheduled to begin July 1, 1990. ^bRespondent indicated that this estimate for recorded dispositions does not include the .55 million backlogged final disposition reports.

Table 4

Data Required by State Law to Be Submitted to State Criminal History Repository, 1989

| State | Prosecutor | Folony dispositions by courts with felony jurisdiction | Admission/m State prisons | lesse of felons Local jails | Probation | Parole |
|------------------------------|--------------|--|------------------------------|--------------------------------|-----------|--------|
| | | | | | | |
| Alabama | x | x | x | | | |
| Alaska | | | | | | |
| Arizona | x | x | | | | |
| denese | ~ | ~ | Y | | | Y |
| | v | Y | Ŷ | v | v | Ŷ |
| ,attomia | ~ | ^ | ~ | ~ | A | ~ |
| olorado | x | x | х | x | х | x |
| Connecticut | х | х | | | | |
|)claware | X | x | х | | x | Х |
| istrict of Columbia | х | х | | | х | Х |
| lorida | x | x | x | x | | x |
| icornia | x | x | x | | x | x |
| leweii | ÿ | Ŷ | x | x | x | x |
| deho | Ŷ | Ŷ | Ŷ | • | x | Ŷ |
| linoid | Ŷ | Ŷ | Ŷ | Y | Ŷ | Ŷ |
| | Ŷ | Ŷ | Ŷ | Ŷ | Ŷ | Ŷ |
| | ~ | ^ | ~ | ~ | ~ | ~ |
| owa | | x | x | х | x | х |
| lansas | x | x | х | X | x | X |
| Kentucky | | x | x | | x | х |
| ouisiana | | | х | x | | |
| Maine | x | x | | | | |
| hand | x | x | x | x | x | x |
| An an a hour atte | ~ | A | ~ | | | |
| Valasse Citter Can | | Y | Y | | | |
| Alcingan . | · · · · • | ~ ~ | Ŷ | | v | v |
| Vunnesota | Ŷ | Ŷ | Ŷ | Y | Ŷ | Ŷ |
| vussissippi | ~ | ~ | ~ | ~ | ~ | ~ |
| Missouri | x | x | x | | x | х |
| Montana | X | x | | | | |
| Vebraska | X | x | х | X | x | Х |
| Novada | Х | x | | | x | |
| New Hampshire | | x | x | x | | |
| New Imper | x | Y | x | x | x | x |
| New Merico | n | Ŷ | ~ | | | ~ |
| Yew Mickied | v | Ŷ | Y | Y | Y | Y |
| New York | ~ | × | Ŷ | Y Y | Ŷ | Ŷ |
| North Dakota | x | ^ | x | â | x | â |
| | | | | | | - |
| Dhio | х | | х | | X | X |
| Oklahoma | | | | | | |
| Dregon | | x | | | | |
| Pennsylvania Rhode Island | x | x | x | x | x | x |
| | | | | | | |
| South Carolina | | X | | | | |
| South Dakota | х | X | x | X | X | X |
| ennessee | | x | х | Х | x | x |
| CXAS | | | | | | |
| Jiah | x | x | x | | x | x |
| /emont | | x | | | x | х |
| Virginia | | x | x | x | •• | |
| Vachington | Y | Ŷ | Ŷ | •• | | |
| v sacurigioni | A V | Ŷ | Ŷ | Y | Y | |
| vest virginia | ÷. | ÷ | ÷ | Ŷ | Ŷ | v |
| VIECONELI | Ň | Ŷ | Ŷ | ~ | Ŷ | Ŷ |
| er yoming | ~ | ~ | ~ | | ~ | ~ |

The effort to improve state criminal history records is driven by the mobility of the criminal population across county and state lines, by recent federal and state laws that focus on keeping repeat offenders off the streets, and by the AntiDrug Abuse Act of 1988 which mandates development of "a system for immediate and accurate identification of felons who attempt to purchase" handguns. The goal is automated linkage of state systems to permit prompt and efficient retrieval of information on criminal offenses, with emphasis on felonies, committed anywhere in the country. At present, access to the Interstate Identification Index is restricted to law enforcement purposes.

Records of juvenile cases are maintained in separate systems that, in most states, are far less complete, accurate, and automated than records on adult criminals. For example, less than half the law enforcement agencies responding to a survey on juvenile records responded that they even had a way of finding out the prosecution or court dispositions of their juvenile cases.⁴⁷ Different states have different procedures for sealing, expunging, or limiting access to juvenile records to ensure that juveniles have an opportunity to change and make a fresh start.

Until recently, confidentiality of juvenile record systems was ensured *de facto* because the systems were so primitive that the information could not be retrieved anyway.⁴⁸ Currently, attention is focused on reducing crime by identifying career criminals and keeping them off the streets with longer sentences. This increases the pressure for judges, parole boards and others to have prompt access to accurate juvenile records. Efforts are under way in many states to improve the quality and retrievability of these records, and past practices of restricted access to juvenile records are being reviewed.

Although many efforts are under way to improve and automate criminal records, it will be years before a single check of criminal records at the national level identifies all relevant criminal records. This is an important consideration when determining the scope of investigations required for various types of clearances.

If a facilities access or other clearance is granted only on the basis of a NAC, the known limitations of the NAC could become a factor in determining legal liability for what is termed *negligent hiring*. The issue of negligent hiring may arise if, for example, a cleared worker on a cleaning crew become violent and harms an employee. The employer may be held legally

⁴⁷ Barton, S.J. (1990). Juvenile records and recordkeeping systems: Summary of a national survey. In Proceedings of a Bureau of Justice Statistics/SEARCH conference on *Juvenile and adult records: One system, one record?* Washington, D.C.: Department of Justice. For the full study, see Barton, S.J. (1988). *Juvenile records and recordkeeping systems.* (NCJ-112815). Washington, D.C.: Department of Justice.

⁴⁸ Belair, R.R. (1990). The future availability of the juvenile record. in Proceedings of the Bureau of Justice Statistics/SEARCH Conference on *Juvenile and adult records: One system, one record?* Washington, D.C.: Department of Justice.

liable for damages if the behavior was reasonably predictable based on information gathered, or that should have been gathered, prior to hiring the service worker. The adequacy of the background check is often considered in such cases.⁴⁹

PREDICTING CRIMINAL BEHAVIOR

Predicting the likelihood of criminal behavior is difficult, as the causes of crime are not known with certainty at this time.⁵⁰ Many different theories advanced during the past century may be grouped into three general categories: biological, psychological, and sociological explanations of crime, as discussed below.⁵¹ Different theories lead to different assumptions about who is most likely to commit crimes and how laws should be enforced, guilt or innocence determined, and misconduct punished.

Biological theories hold that propensity to commit crime is influence by inherited genetic factors. This was a dominant theory during the early part of this century, and many habitual offenders were sterilized until this practice was declared unconstitutional in 1942. More recent research has focused on neurological, endocrinological and genetic factors that seem to be related to the violent behavior of some people.

A key tenet of psychological theories of crime is that personality characteristics formed during early childhood determine later behavior. There are many different psychological explanations why some individuals develop antisocial or pathological personalities. A common current view is that childhood abuse plays a key role.

Sociological explanations assume that the criminal's personality and actions are molded by the environment in which the offender lives or has grown up. Therefore, the roots of criminality are found in the social environment--poverty, family breakdown, illiteracy, the drug culture--rather than in the individual. Others counter that blaming society for causing crime

⁴⁹ Ryan, A.M., & Lasek, M. (1991). Negligent hiring and defamation: Areas of liability related to pre-employment inquiries. *Personnel Psychology*, <u>2</u>, 293-319.

⁵⁰ The National Institute of Justice, in a major public-private partnership with the MacArthur Foundation, in 1990 launched a large, multi-year, pioneering study to track the influence of individual and social factors on the development of pro- and antisocial behavior. See National Institute of Justice (May/June 1990). Massive study will trace developmental factors that cause or prevent criminality. *NIJ Reports, No. 220*, pp. 2-4.

⁵¹ Cole, G.F. (1986). The American system of criminal justice (Fourth Edition). Monterey, CA: Brooks/Cole Publishing Co., pp. 41-48.

actually facilitates law breaking, as it provides seemingly scientific and socially sanctioned excuses for an individual's undesirable behavior.⁵²

Although we cannot say with assurance what *causes* criminality, we can to some degree predict the likelihood of future criminal behavior by identifying factors commonly associated with it. The following sections discuss prior criminal offenses as a predictor of future offenses and juvenile delinquency as a predictor of adult criminality. They also discuss integrity tests and certain personality characteristics as a predictor of betrayal of trust.

Past Criminal Behavior as a Predictor

Evidence that past criminal behavior predicts future criminal behavior supports current adjudication standards that disqualify individuals with a significant criminal history. A study of 108,580 persons released from state prisons in 1983 found that 62.5% were rearrested for a felony or serious misdemeanor within three years. Most persons who serve time in state prison are career criminals. The persons in this database had an average of 12 criminal charges each, and almost two thirds had served a previous jail or prison sentence.⁵³

A study of recidivists returning to prison in 1979 found that 60.2% were returning within 3 years of their last release. Fewer than 6 years had elapsed for 82% of those who were returned to prison. Only 10% of recidivists entering prison in 1979 had committed their last offense more than 9 years earlier.⁵⁴ Note that these figures cover only those who are returned to prison. Others may be arrested on felony charges but not prosecuted, or sentenced to jail or probation on a lesser charge rather than to prison.

Less serious felony offenders are often sentenced to probation rather than prison, or to a combination of probation with a very short prison or jail term. Of 79,000 convicted felons sentenced to probation in 1986, 46% had been rearrested and sent to prison or jail or had absconded (whereabouts unknown) within 3 years. An additional 19% had a disciplinary hearing within 3 years for violating a condition of their probation.⁵⁵

⁵³ Bureau of Justice Statistics (1989). *Recidivism of prisoners released in 1983*. (Special Report). Washington, D.C.: Department of Justice.

⁵⁴ Greenfield, L.A. (1985). *Examining recidivism*. (Bureau of Justice Statistics Special Report). Washington, D.C.: Department of Justice. Secondary analysis of Table 3.

⁵⁵ Langan, P.A., & Cunniff, M.A. (1992). *Recidivism of felons on probation*, 1986-89. (Bureau of Justice Statistics Special Report). Washington, D.C.: Department of Justice.

⁵² White, T.W., & Walters, G.D. (1989). Lifestyle criminality and the psychology of disresponsibility. *International Journal of Offender Therapy and Comparative Criminology*, <u>33</u>, 257-263.

Judges, parole boards and probation officers use various formulas for predicting recidivism to aid them in decision making. A Rand study that examined six of these formulas found them "disappointing." The formulas for predicting recidivism were "only 5 to 10 percent more accurate than would be obtained by chance.⁵⁶

Since habitual criminals are not likely to be candidates for security clearance, data on recidivism among first-time offenders is most relevant for our purposes. This is available in the study, described above, of males born in 1956 who were arrested as adults in California between the years 1974 and 1985. About half were arrested only once; the other half were rearrested at least once by age 29. The rearrest rate for whites was 47.7% and for blacks 60.3%.⁵⁷

The U.S. Department of Justice's Bureau of Justice Statistics has developed a large database of first-time arrestees in order to study recidivism among this group. Analysis of this database was not completed in time for inclusion in this report. Preliminary results indicate the findings are similar to the California study, with 51% of first-time arrestees being rearrested within an 11-year follow-up period. The percentages by race are 56% for blacks and 44% for whites. When this study is completed, it will provide data on how the probability of rearrest diminishes with the passage of time after the first arrest.⁵⁸

Juvenile Delinquency as a Predictor

In 1990, 16.2% of all arrests for the violent crimes of murder, forcible rape, robbery or aggravated assault involved juveniles under the age of 18. For the property crimes of burglary, larceny-theft, motor vehicle theft, and arson, 31.9% of all arrests involved juveniles under the age of 18.⁵⁹

This section examines the evidence on whether a juvenile record is predictive of later problems as an adult. It concludes that the vast majority of youths processed by the juvenile court system get into trouble only once. A significant number get into trouble twice, but it drops

⁵⁸ Telephone communication with Dr. Allan Beck, U.S. Department of Justice, Bureau of Justice Statistics, October 29, 1992. Dr. Beck is the principal researcher for the study of recidivism of first arrestees. The study uses a sample of persons from eight states arrested for the first time for a felony or misdemeanor in 1978 and 1984 and tracks them through 1991. The preliminary results are based on a sample of 23,371 persons arrested in 1978.

⁵⁹ Uniform Crime Report, 1990, op.cit.

Polygraph, <u>23(1)(1994)</u>.

⁵⁶ Klein, S.P., & Caggiano, M.N. (1986). The prevalence, predictability, and policy implications of recidivism. (R-3413-BJS). Santa Monica, CA: The Rand Corporation.

⁵⁷ Tillman, R. (1986), op.cit.

off sharply after that.⁶⁰ Most juvenile delinquents do stop committing crimes as they mature. It is the chronic offenders and those who start at the earliest ages who are most likely to continue committing crimes as adults.⁶¹

In Maricopa County (Phoenix), Arizona, about half of the males and about 8% of females have some involvement with the juvenile court system before they turn 18. In about one quarter of those cases, the juvenile is actually adjudicated and placed on probation or receives some other formal court disposition. Average age of first referral to juvenile court is slightly less than 14 years. Only 4% of all the juvenile offenders, and 16% of those who were adjudicated as juveniles, go on to develop adult felony records.⁶²

A study of 10,000 boys born in 1945 and who lived in Philadelphia at least from age 10 to 18^{63} found that 35% of the boys were arrested at least once before reaching age 18, and 6% were classified as chronic offenders (five or more arrests before age 18). These chronic offenders were responsible for over half of the offenses. Using a sample of 975 of these boys who were tracked until age 30, the study found that 45% of the chronic juvenile offenders became chronic offenders as adults, while 22% of the chronic juvenile offenders had no offenses at all as adults. Of those who had no juvenile offenses, 82% remained nonoffenders as adults.

A study of 14,000 females born in 1958, who were raised in Philadelphia and tracked until age 27,⁶⁴ found that 14% were arrested as juveniles, and only about 14% of those were arrested again as adults.

A study by the Defense Manpower Data Center of 66,000 persons from Florida who entered the armed services from fiscal year 1984 through 1987 found that over 11% had criminal

⁶¹ Blumstein, A. (1990). The utility of the juvenile record in predicting the career criminal. In Proceedings of Bureau of Justice Statistics/SEARCH Conference on *Juvenile and adult records: One system, one record?* Washington, D.C.: Department of Justice.

⁶² Garcia, op. cit.

⁶³ Wolfgang, M.E. (1990). The nature and severity of juvenile crime and recidivism. In Proceedings of a Bureau of Justice Statistics/SEARCH Conference, Juvenile and adult records: One system, one record? Washington, D.C.: Department of Justice. Also see Wolfgang, M., Thornberry, T., & Figlio, R. (1987). From boy to man, from delinquency to crime. Chicago: University of Chicago Press.

⁶⁴ Ibid.

Polygraph, <u>23(1)(1994)</u>.

⁶⁰ Garcia, E. (1990). An integrated county court system. In Proceedings of a Bureau of Justice Statistics/SEARCH Conference, *Juvenile and adult records: One system, one record?* Washington, D.C.: Department of Justice.

offense records in the Florida juvenile offender database. A large majority concealed these offenses when filling out personal history statements at the time of enlistment. Review of military records determined that bout 30% of those with a juvenile record were separated from the service for unsuitability within 4 years, as compared with 20% for those who had no juvenile record. This difference in unsuitability discharge rates for offenders and non-offenders was more or less constant regardless of race, sex, marital status, educational level, aptitude test level, and age at enlistment. In other words, all categories of military personnel with a juvenile record. It should be noted, however, that 70% of those with juvenile offense records did not leave the service for reasons of unsuitability. By this criterion, 70% succeeded.⁶⁵

Predicting Employee Honesty

In response to the high cost of employee theft, many businesses, especially retail stores, have sought additional means to screen out job applicants most likely to engage in theft or other dishonesty practices. A number of psychological tests, commonly called integrity or honesty tests, have been developed for this purpose and are commonly used for pre-employment screening of job applicants.

There are two general types of integrity tests. One type asks direct questions about attitudes toward dishonest behaviors, such as: What percentage of people do you think steal from their employer? Do you know for certain that some of your friends steal from their employer? What punishment is appropriate for a person caught stealing \$5? This line of questioning is based on the theory that people tend to assume that other people are much the same as themselves. That is, the dishonest person is likely to believe that dishonesty is common, to know people who are dishonest, and to believe that petty dishonesty does not deserve severe punishment.

A second type of test measures personality characteristics such as conscientiousness, reliability and trustworthiness. These tests aim to predict a broad range of counterproductive work behaviors including absenteeism, disciplinary problems, and drug abuse as well as theft.

The American Psychological Association recently formed a Task Force on the Prediction of Dishonesty and Theft in Employment Settings to assess the accuracy of integrity tests and the

⁶⁵ Defense Manpower Data Center (1990). Juvenile offenders in the military: Summary of fiscal year 1984-87 Florida accessions. Monterey, CA: Author. Also Flyer, E.S. (1991). Juvenile offenders in military service: Florida delinquency study. Report prepared for the Directorate of Accession Policy, Office of the Assistant Secretary of Defense (Force Management and Personnel).

social policy questions associated with them.⁶⁶ The task force identified many problems with these tests, but found that the best tests are useful and have predictive validity. However, little information is available to justify the cutoff scores marking success or failure on the tests, and no information is available on how many potentially honest employees are lost for each potentially dishonest one who is excluded. Although the purpose of many test questions is transparent, lying on the test does not seem to be as much of a problem as many people fear.

A recent review of all previous analyses of integrity tests also concludes that these tests have some predictive validity, but that they are better at predicting organizationally disruptive behaviors in general than the more specific behavior of employee theft.⁶⁷

Although integrity tests purportedly identify an individual as honest or dishonest, or high, medium or low risk, the result is actually a probabilistic judgment. A more careful scoring might indicate, for example, a 70% or 80% chance that a given employee will or will not steal merchandise from the store. Integrity tests have a large number of what are called false positives, that is, cases in which an individual is identified incorrectly as high risk. Others may be identified as low risk when they are really high risk.

All screening mechanisms are fallible to some degree. An integrity test may be appropriate when many applicants are being screened for just a few jobs, or when it is used as only one of many variables in the employment decision. For a retail store seeking to hire honest sales clerks, a simple paper-and-pencil integrity test will be at least as effective and objective as a personal interview, and more effective than simply hiring the first qualified applicant for the job.

The integrity test does not appear to be a sufficiently sophisticated and discriminating instrument for use in the security clearance process. Its utility may also be limited by its focus on petty theft rather than serious betrayal of trust.

⁶⁷ Ones, D.S., Viswesvaran, C., & Schmidt, F.L. (1992). *Meta-analysis of integrity test validities* (Final Technical Report prepared for Defense Personnel Security Research Center). Ames, IA: University of Iowa, Department of Management and Organizations.

⁶⁶ Goldberg, L.R., Grenier, J.R., Guion, R.M., Sechrest, L.B., & Wing, H. (1991). Questionnaires used in the prediction of trustworthiness in pre-employment selection decisions: An A.P.A. task force report. Washington, D.C.: American Psychological Association. For another assessment of integrity tests, see U.S. Congress, Office of Technology Assessment (1990). The use of integrity tests for pre-employment screening. Washington, D.C.: U.S. Government Printing Office. For recent literature reviews on integrity testing, see O'Bannon, R.M., Goldinger, L.A., & Appleby, G.S. (1989). Honesty and integrity testing: A practical guide. Atlanta, GA: Applied Information Resources. And Sackett, P.R., Burris, L.R., & Callahan, C. (1989). Integrity testing for personnel selection: An update. Personnel Psychology, <u>37</u>, 491-529.

Measuring Risk of Betrayal of Trust

Many serious crimes involve betrayal of trust. In the absence of a criminal record, identification of personality traits associated with a tendency toward trust betrayal may be a useful screening tool.

Employees who enter positions of trust seldom do so with the intention of betraying that trust. They generally *become* criminals only after passing the initial screening and being employed for a time. An employee's decision to commit a crime such as espionage, embezzlement, procurement fraud, sabotaging a computer system, falsifying a request for financial reimbursement, or stealing government property is the product of a personal predisposition toward betrayal of trust combined with a motive and apparent opportunity to get away with it.

Scholars who have studied white collar crime in general, and espionage in particular, have identified a number of personality traits associated with betrayal of trust. One personality type predisposed toward betrayal is self-centered, lacks self-control, and tends to seek self-gratification without concern for others. When combined with thrill-seeking or a propensity toward risk-taking, a tendency to follow momentary impulses and a sense of alienation, this may lead to problems. A second type of person at risk for betrayal is irresolute and susceptible to influence; this type is less common and less well understood.⁶⁸

Many indicators of antisocial behavior are associated with crime in general. These include very low tolerance for frustration and low threshold for aggression, blaming others for one's conflicts with society, callous unconcern for the feelings of others, persistent irresponsibility, inflated and arrogant self-appraisal, and inability to maintain enduring relationships.⁶⁹ Such personality characteristics may suggest the possibility of past criminal behavior even though criminal history records checks are negative.

⁶⁸ For a review of literature on trust betrayal, see Parker, J.P. & Wiskoff, M.F. (1991). *Temperament constructs related to betrayal of trust.* (PERS-TR-92-002). Monterey, CA: Defense Personnel Security Research and Education Center.

⁶⁹ Hare, R.D., Hart, S.D., & Harpur, T.J. (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. *Journal of Abnormal Psychology*, <u>3</u>, 391-398. Serin, R.C., Peters, R. DeV., & Barbaree, H.E. (1990). Predictors of psychopathy and release outcome in a criminal population. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, <u>4</u>, 419-422. Gough, H., & Bradley, P. (1992). Delinquent and criminal behavior as assessed by the revised California Psychological Inventory. *Journal of Clinical Psychology*, <u>3</u>, 298-308.

There exists a considerable body of experience in applying standardized psychological tests to measure some of these characteristics. The California Psychological Inventory (CPI),⁷⁰ in particular, has been recognized as "one of the best-validated and most powerful personality scales available"⁷¹ and "has been consistently successful in assessing socialization and differentiating delinquent from nondelinquent groups."⁷² The question remains, is it possible to identify individuals who have no previous criminal history but who may be predisposed toward betrayal of trust later in life if confronted with situations that provide motive and opportunity for illegal gain. The Defense Personnel Security Research Center is researching the measurement of personality variables associated with betrayal of trust. The goal is to validate a psychological scale or set of scales to aid in personnel security screening.

RELATIONSHIP OF CRIME TO OTHER BEHAVIORS OF SECURITY CONCERN

Alcohol and drug abuse accompanies a large proportion of criminal activity, but the exact nature and extent of the linkages between substance abuse and crime are not fully understood. A national survey of state prison inmates found that almost one third were under the influence of an illegal drug or had drunk very heavily just before they committed the crimes for which they were incarcerated. On the other hand, other research indicates that many drug abusers deliberately take few or no drugs just before critical events such as committing a theft.⁷³

Some individuals become more aggressive and violent after drinking alcohol, so it is not surprising that alcohol is often associated with violent crimes such as murder, rape, assault, and spouse and child abuse. Among drug users, the major impetus for much criminal behavior is need to obtain money for drug purchases. This results in a large number of property crimes such as burglary, robbery, and theft.

⁷¹ Megargee, E.I. (1972). The California Psychological Inventory Handbook. San Francisco, Jossey-Bass, p. 65.

⁷² Brodsky, S.L., & Smitherman, H.O. (1983). Handbook of scales for research in crime and delinquency. New York: Plenum Press, p. 33. Also see Gough, H.G., & Bradley, P. (1992). Delinquent and criminal behavior as assessed by the revised California Psychological Inventory. Journal of Clinical Psychology, <u>48</u>, 298-308.

⁷³ Gropper, B.A. (1985). Probing the links between drugs and crime. Washington, D.C.: Department of Justice, National Institute of Justice.

⁷⁰ Gough, H.G. (1956). Manual for the California Psychological Inventory. Palo Alto, CA: Consulting Psychologists Press. Also Gough, H.G. (1987). The California Psychological Inventory administrator's guide. Palo Alto, CA: Consulting Psychologists Press.

Most research on the relationship between substance abuse and crime applies to the poor, less educated, adult male who has been arrested and convicted. Interpretation of results is obscured by the fact that substance abuse and crime are both most prevalent among the same demographic group--young men. Less is known about the impact of substance abuse on those who are well educated and fully employed. One survey of 500 largely employed and educated persons who called national hotline for help with cocaine-related problems found that 12% had been arrested for a cocaine-related crime, while 29% admitted to stealing from family, friends, or employers to support their drug habit.⁷⁴

MITIGATING FACTORS

Passage of time since committing a criminal offense is sometimes regarded, along with other considerations, as a mitigating factor that might allow approval. The question is, how much time needs to elapse before it is reasonable to conclude that a previous criminal offense should no longer be a disqualifying factor? A second question is, how should one interpret cases in which an individual is arrested but not prosecuted or not convicted? It is recognized that in a high percentage of such cases, the individual may have been guilty as charged but released because of insufficient evidence or a legal technicality.⁷⁵ On the other hand, the American justice system prescribes that an individual is innocent until proven guilty.

In answering these questions, the previously discussed information on recidivism is a relevant factor, as are state statutes and court decisions relating to fairness and privacy issues in the use of criminal records.

In discussing recidivism, we saw that roughly 50% of first-time offenders are arrested for a second offense prior to age 29. We also saw that the chances of an offender being returned to jail or prison drops off with the passage of time. It drops off considerably after 3 years, and the chances of a return to prison are estimated at about 20% after 6 years and 10% after 9 years have elapsed. The study of recidivism by first offenders now under way at the U.S. Department of Justice will provide much better data on this subject.

At least seven states have passed statutes that recognize the slight risk of recidivism by offenders with old criminal history records. These statutes permit "old" records to be sealed or purged, either automatically through administrative action or selectively through court petition.

⁷⁴ Washton, A.M., & Gold, M.S. (1984). Chronic cocaine abuse: Evidence for adverse effects on health and functioning. *Psychiatric Annals*, <u>14</u>, 733-743.

⁷⁵ Bureau of Justice Statistics (1988). Public access to criminal history record information. (NCJ-111458). Washington, D.C.: U.S. Department of Justice, p. 62.

These statutes generally apply to records that are either 5 years old or 10 years old.⁷⁶ On the other hand, courts in about 15 states have addressed the question of whether the passage of time alone can deprive the public of its right to access to criminal records; in most cases, they have determined that it cannot.⁷⁷

Somewhat different considerations apply in cases where an arrest does not lead to conviction. We have found no data on the frequency with which individuals who were arrested but not convicted are subsequently arrested for another offense. It has been argued that in the absence of conviction, an arrested person must be presumed innocent and that, therefore, the arrest is an essentially private event not subject to public scrutiny. This is especially true of arrests which end in acquittal. The Supreme Court has rejected this view, however, and found that even when arrest does not lead to conviction, records of the arrest and prosecution are matters of legitimate public interest.⁷⁸ On the other hand, the New York State Human Rights Law prohibits any person or business from asking an applicant for employment, credit or insurance about an arrest which did not lead to conviction.⁷⁹ A similar law applies in California.⁸⁰

CONCLUSIONS

Organizations involved in national security work need to protect themselves against a variety of crimes such as embezzlement, procurement fraud, and theft of government property as well as espionage. If an individual has a history of criminal behavior, this may indicate a tendency to break the rules again in the future.

Serious crime is common in some elements of society, but much crime goes unreported, and many of those who are arrested are not prosecuted for lack of evidence or are acquitted on legal technicalities unrelated to guilt or innocence. Many who commit serious felonies are

⁷⁶ *Ibid.*, p. 57.

⁷⁷ Kirtley, J.E. (1988). Media access to criminal history records. In Bureau of Justice Statistics (1988). Open vs. confidential records, conference proceedings. (NCJ-113560). Washington, D.C.: U.S. Department of Justice.

⁷⁸ Bureau of Justice Statistics (1988), Public access to criminal history record information, op.cit., pp. 59-62.

⁷⁹ Kirtley (1988), op.cit., p. 38.

⁸⁰ Snyder, J.M. (1988). The private employer and criminal history records, p. 33, in Bureau of Justice Statistics (1988). Open vs. confidential records, conference proceedings, op.cit.

convicted of misdemeanors, but a large percentage of serious crime is committed by a relatively small number of career criminals who offend repeatedly and usually do eventually get caught. Criminal history records checked by investigators are incomplete or misleading much of the time, but improvements are under way in many areas.

Criminal history records reflect only the tip of the iceberg of total criminal activity. Crime is so pervasive, and records of criminal offenses so incomplete, that the absence of a criminal record indicates very little. It cannot, and should not, be construed as solid evidence of the absence of criminal activity. Much past criminal behavior is likely to be discovered only by self-admission, interviews with references or developed sources, or polygraph examination.

Many first-time offenders, especially juveniles, learn their lesson and do not commit further crimes, but about 60% of adult convicted felons released from prison are arrested again within 3 years. For adults, commission of one serious crime is a fairly good predictor that they will commit others. Research is needed on the ability of psychological tests to identify individuals with no previous criminal history who may be at risk for betraying trust later in life if confronted with situations that provide motive and opportunity for illegal gain, or who may have already committed crimes without being caught or convicted.

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POLYGRAPH PROGRAM

UNITED STATES DEPARTMENT OF DEFENSE

The Polygraph: Background Information

The Department of Defense has used the polygraph effectively for almost half a century. It is used mainly in criminal investigations, counterintelligence cases, foreign intelligence and counterintelligence operations, exculpation requests, and now, counterintelligence-scope screening. The polygraph is a tool of proven value that greatly enhances the interview and interrogation process. Often it is the only investigative technique capable of providing essential information to resolve national security issues and criminal investigations.

Section 1121 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180, December 4, 1987; 101 Stat. at 1147) authorizes the Department of Defense to conduct Counterintelligence-scope Polygraph examinations in support of security and counterintelligence matters. The following report illustrates how the Department of Defense Polygraph Program is managed. It also documents specific examples of polygraph utility.

The purpose of the Counterintelligence-scope Polygraph Program is to deter and detect espionage and sabotage. The counterintelligence-scope polygraph examination questions focus on whether the examinee has ever engaged in espionage or sabotage; has ever given or sold classified material to unauthorized persons or has been approached to do so; has ever had any unauthorized contact with a representative of a foreign government; or has ever had knowledge of anyone who had been involved in any of the above.

The importance of the Counterintelligence-scope Polygraph Program as a deterrent to espionage is well documented in the recorded interviews of convicted spies. Most of these individuals say they would not have spied if they had been required to take a polygraph examination or would not have taken a job that required a polygraph examination. They simply felt that they would not have been able to pass a polygraph examination.

The polygraph being such an effective deterrent, it is not surprising to find a very low base rate for deception in those individuals being tested. It should also be noted that while the polygraph is very good at detecting deception about past and present actions, it cannot determine future intentions.

This is the Department of Defense Annual Report to Congress on its polygraph program, from the Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence. It covers FY 93. [Ed.]

Fiscal Year 1993 Counterintelligence-scope Polygraph Examinations

The following information is provided in accordance with Section 1121 of Public Law 100-180, 101 Stat. 1147.

| (1) | Special Access Programs | 2,990 | |
|--------------------------|---|-------|------------------------|
| (2) | DIA Critical Intelligence Positions | 798 | |
| (3) | TOP SECRET | 436 | |
| (4) | Examinations for Interim Access to Sensitive Compartmented Information | 2 | |
| Total Exan Con Exe | ninations Conducted Under the ngressional Ceiling empted Examinations | | 4,226 <u>13,744</u> |
| DoD Coun | terintelligence-scope Polygraph Program | | |

TOTAL* 17.970

*NOTE: Does not include counterintelligence-scope polygraph examinations conducted by the National Security Agency (NSA).

Refusals

In fiscal year 1993, a total of 24 persons declined polygraph testing. The two most often stated reasons for declining the counterintelligence-scope polygraph examination are: 1) the examination is an intrusive device that violates the right of privacy; and 2) the examinee decided against assuming a job that required a high-level security clearance and a polygraph examination. In fiscal year 1993, the refusal rate was one tenth of one percent of the total number of examinations administered. The evidence suggests that the refusal rate is minuscule because the examination does not include lifestyle questions. The rate has remained relatively constant since the implementation of the Counterintelligence-scope Polygraph Program nine years ago. In accordance with Department of Defense policy, those persons who declined to take the examination were subsequently denied access to the classified material in question, but retained

Polygraph 23 (1)(1994).

their position or were transferred to other positions in the organization of equal pay and responsibility, commensurate with the clearance level held before the declination.

Examinations Requiring More Than Two Series or More Than One Day

Of the total examination population of 17,970 individuals, 1,103 required more than two series (a series is defined as the collection of at least two polygraph charts on an examinee). A total of 728 examinations required more than one day to complete.

Of the individuals for whom the examination lasted more than one day or required more than two series, 791 yielded deceptive, inconclusive, or non-deceptive results with admissions. These results are documented in more detail later in this report. The remaining extended examinations were subsequently determined to be non-deceptive. The non-deceptive examinees were given access or continued access to the programs requiring the polygraph examination.

Examination Results

The polygraph examination results of the 17,970 individuals tested under the Department of Defense Counterintelligence-scope Polygraph Program are as follows:

There were 15 individuals who, because of medical or psychological considerations, were unable to complete the polygraph examination, resulting in insufficient data with which to form an opinion. None of these individuals made any admission relevant to the issues being tests.

There were 22 individuals whose polygraph examination results were evaluated as inconclusive, *i.e.*, after a review of the physiological data, it was not possible to determine whether the results indicated deception or non-deception. Additional examinations were conducted on many of these individuals. Some of the examinations were administered on two or more consecutive days by different examiners. Two of these individuals made admissions relevant to the issues being tested.

There were 17,164 individuals whose polygraph examination results were evaluated as non-deceptive.

There were an additional 729 individuals who made admissions relevant to the issues being tested, and through further testing, the examiner was able to resolve all relevant issues.

There were 23 individuals whose polygraph examination results were evaluated as deceptive and who made no admissions to the relevant issues.

There were 17 individuals who made admissions relevant to the issues being tested but continued to be evaluated as deceptive during further testing.

The following are some examples of information developed during counterintelligencescope polygraph examinations. It should be noted that all these individuals had been interviewed previously by security professionals and investigated thoroughly. These cases demonstrate the effectiveness of the polygraph. Without its use, it is doubtful that the information would have been developed.

An individual assigned to an extremely sensitive classified Special Access Program admitted to unauthorized oral disclosures of information classified at the SECRET and TOP SECRET (CODE WORD) level. He denied any wrongful or inadvertent removals of classified information. During subsequent examinations he admitted to the removal of TOP SECRET (CODE WORD) material, and transporting a computer disk to and from a Special Compartmented Information Facility and additional oral disclosures of information protected within his Special Access Program.

An individual admitted disclosing his involvement in "Black Projects" and Special Access Programs to his wife and several members of a social group with which he was involved. The group, which believed in witchcraft and ancient Celtic gods, was critical of his involvement in the classified projects and was opposed to military activities. During the polygraph examination the individual reported that he had previously been tested by the National Security Agency and had not passed that examination. The case was referred to the Federal Bureau of Investigation.

An individual admitted that he had told unauthorized persons details of his involvement in Special Access Programs. Additionally, he provided information regarding special activities related to approved special operations which he felt were questionable and which caused him concern during the testing.

An individual admitted not reporting that he had occasional contact with a member of a foreign intelligence service. He met the individual during a joint training exercise and maintained occasional contact through correspondence.

An individual with access to several Special Access Programs admitted that he had provided classified material to liaison counterparts without proper authorization.

An individual admitted that he had provided classified information to an uncleared person and had unreported contacts with an individual from a former east-bloc country from 1980 to the present. The individual had visited the individual's home in that country in the past year.

An individual admitted discussing interrogation techniques and investigative activity relating to a specific classified espionage investigation and classified Department of Defense counternarcotics activities with friends.

An individual admitted to disclosing classified information to his spouse on approximately nine occasions. One disclosure involved a Russian ship monitoring activity off the U.S. coast.

An individual admitted not reporting requests for classified or defense information by unauthorized persons while in attendance at liaison functions and seminars, both in an official and unofficial capacity.

An individual who was a naturalized citizen from the Federal Republic of Germany, admitted intentionally withholding information from U.S. officials during her naturalization process as well as during previous background investigations regarding a relative who lived in East Germany. Additionally, she acknowledged confirming to her foreign born relatives the fact that her counterintelligence duties included investigating the former East German Intelligence Service.

An individual admitted that in 1979, he was introduced by a family member in New York to a man later identified as being the KGB Chief in the United States. In 1990, while visiting a relative's home in New York, he was introduced to the Soviet Trade Consul for the United Nations. He stated he was queried by the Soviet official concerning personalities at the Defense Language Institute in Monterey, California.

Utility of the Polygraph

During fiscal year 1993, as previously illustrated in the report, the utility of the polygraph in national security investigations was demonstrated to be unique and significant. At Appendix B are various accounts of interviews conducted with the aid of the polygraph. In all illustrated instances, the polygraph examination process produced significant security or criminal information which would not otherwise have been obtained. It was also valuable in helping to establish the innocence of persons charged with serious infractions.

Qualification Standards for Department of Defense Forensic Psychophysiologist (Polygraph Examiners)

The Department of Defense maintains very stringent standards for polygraph examiners. The Department of Defense Polygraph Institute's basic polygraph program is the only program known to base its curriculum on forensic psychophysiology, and conceptual, abstract, and applied knowledge that meet the requirements of a master's degree-level of study. Candidates selected for the Department of Defense polygraph positions must meet the following minimum requirements:

1. Be a United States citizen.

2. Be at least 25 years of age.

3. Be a graduate of an accredited four-year college or have equivalent experience that demonstrates the ability to master graduate-level academic courses.

4. Have two years of experience as an investigator with a Federal or other law enforcement agency. Two years of comparable experience may be substituted for the requirement of investigative experience with a Federal or other law enforcement agency.

5. Be of high moral character and sound emotional temperament, as confirmed by a background investigation.

6. Complete a Department of Defense-approved course of polygraph instruction.

7. Be adjudged suitable for the position after being administered a polygraph examination designed to ensure that the candidate realizes, and is sensitive to, the personal impact of such examinations.

After completing the basic polygraph training, the individual must serve an internship consisting of a minimum of six months on-the-job-training and conduct at least 25 polygraph examinations under the supervision of a certified polygraph examiner before being certified as a Department of Defense polygraph examiner.

Department of Defense Forensic Psychophysiologists (Polygraph Examiners)

| Fiscal Year | Average Number of Examiners | Attrition Rate | |
|-------------|-----------------------------|----------------|--|
| 1988 | 235 | 14.5% | |
| 1989 | 261 | 10.0% | |
| 1990 | 270 | 6.3% | |
| 1991 | 269 | 14.9% | |
| 1992 | 269 | 17.8% | |
| 1993 | 254 | 17.3% | |

Polygraph (Forensic Psychophysiology) Research

Department of Defense Polygraph Institute

The Department of Defense Polygraph Institute established in 1986, has three Congressionally mandated research areas: 1) evaluate the validity of polygraph techniques; 2) conduct research on polygraph countermeasures; and 3) conduct developmental research to improve polygraph technology.

Small Grants Program

In fiscal year 1992, the Institute began a program to provide grants of up to \$3,000 for master's degree students, \$10,000 for doctoral degree students, and \$20,000 to academic and private institutions for research in forensic psychophysiology. This program has proven to be so responsive to our needs, and so cost effective, that in fiscal year 1993 it was enlarged. Grant limits are now \$5,000, \$15,000 and \$50,000 for master's, doctoral, and institutional awards. This has increased both the quantity and quality of research proposals. In fiscal year 1993, the Institute funded 13 of the 19 proposals received, as compared to 4 of 8 proposals received in fiscal year 1992. The funded proposals fall into four major categories: computerization of polygraph test results, new physiological measures and equipment, new test formats and procedures, and miscellaneous grants.

Computerization of polygraph test results. The Institute is funding four grants exploring different methods of analyzing test results for determining truth and deception. All involve analysis of the same set of data from verified truthful and deceptive criminal suspects who were administered tests on computerized polygraphs.

The University of Washington is assessing the effectiveness of *decision trees*. An earlier approach, known as step-wise discriminant analysis, draws one vertical line to best discriminate between truthful and deceptive populations of polygraph subjects. Decision trees, on the other hand, can use a large number of lines at differing angles, to discriminate between the populations. This may prove to be more accurate than the earlier approach.

Claremont Graduate School in California is exploring *artificial neural networks*. This approach uses massive parallel processing, similar to how the human brain works, to identify the different scoring criteria and weighting for each factor used to discriminate between the guilty and innocent subjects. Because the computer determines how to evaluate the charts in the data base, rather than examiners using a priori decision rules, this computerized method may prove to be better than human analysis.

The University of California at San Jose is exploring *fuzzy logic* to solve problems. Traditional solutions have relied on probabilistic statistics to determine deception. Fuzzy logic uses the domain of possibilistic statistics. The success of fuzzy logic at solving related types of problems suggests it may be useful in polygraph chart interpretation.

Johns Hopkins University's Applied Physics Laboratory (APL) has a contract to develop an algorithm to distinguish between genuine reactions caused by deception versus a spurious reaction caused by sophisticated countermeasures. The ability to detect countermeasures on a polygraph test should increase our ability to detect foreign agents who have received countermeasure training.

New physiological measures and equipment. The Institute is pursuing four efforts to develop new indices of deception or new equipment to detect deception.

Brain waves. The University of Ottawa in Canada in investigating the use of two types of brain wave measure, the P300 and N400. These waves occur immediately after hearing a statement that is false or a question requiring a lie. Brain waves may be particularly resistant to countermeasures, because they occur as soon as the subject recognizes the critical item, before he or she decides whether to apply a countermeasure.

The cardio cuff on the present polygraph is uncomfortable. This limits the number of questions that can be asked on the test. The Institute is supporting studies trying to replace it with another cardiovascular measure which will be at least as accurate, without causing discomfort. One such study is being conducted by a researcher in California who is using a new type of plethysmograph to study cardiovascular changes during deception.

The State University of New York at Stoney Brook is studying several different measures of cardiovascular activity.

The University of Maryland is working on a new type of polygraph that may include cardiovascular and respiratory measures such as vagal tone and the respiratory ramp. This will provide us information about the interaction between the brain and the rest of the body which should be helpful in detecting deception.

New techniques and methods.

A Minnesota researcher is conducting a study to see if *classical conditioning* can make it easier to detect lies. It has long been known that a loud noise will cause a big reaction. Just before taking a polygraph exam, the subject will undergo a conditioning procedure. He will be instructed to lie. Just as he does, he will hear a loud noise, creating a very large reaction. This conditioning procedure continues until he gives a large response whenever he lies, even when the noise does not appear. The standard polygraph test will then be given. The experiment will determine whether the lies of the conditioned subjects are easier to detect than the lies of subjects who have not gone through the conditioning procedures.

The guilty knowledge test (GKT) is praised by most scientists, who consider it a much better test than the control question test. They consider it to be more scientific, to have a strong theoretical base, and to be accurate with innocent subjects. The GKT has long been used by Israeli, Japanese, and Balkan polygraph examiners, yet it has never gained acceptance by U.S. examiners, because they believe it could seldom be used. This study explores the feasibility of the FBI's using the GKT. Researchers from the Institute working with FBI polygraph examiners will conduct a field test of the GKT.

Does the guilty person react more when lying about what he *knows*, or about what he *did*? The guilty knowledge test asks a series of questions about what a person knows: "Regarding the type of store held up last night, do you know if it was the ABC liquor store? Do you know if it was the Walmart? ... etc." A Canadian researcher has developed a related test, the *Guilty Action Test (GAT)*, in which the questions relate to what the guilty person did: "Regarding the robbery last night, did you hold up the ABC liquor store? Did you hold up the Walmart? ... etc." This study compares the effectiveness of the two types of questions.

Miscellaneous grants.

Research data base. It is important that researchers be able to retrieve all studies pertaining to a topic of interest, such as demographic and personality variables or accuracy as a function of examiner training. For example, to examine factors that might cause inconclusive test results, a researcher may wish to review all studies reporting unusually high or low inconclusive rates. There is no easy way of doing this at present. The Institute is funding a researcher at the University of Northern Michigan to construct a computerized data base of a standardized set of over seventy variables and statistics from all known polygraph studies. This will increase both the speed and thoroughness with which the literature can be searched, and lays the groundwork for meta-analyses of the scientific literature.

Espionage data base. Project Slammer is studying incarcerated espionage agents to learn why and how they became involved in espionage. It is limited to living persons. To provide examiners in broader background into historical trends and personalities, the Institute has awarded a grant to a researcher in Maryland to extract details from books detailing personalia and modus operandi of persons involved in espionage. This data base will be shared with PERSEREC. As part of this grant, the researcher will assemble a library of 300 books detailing with espionage for the Institute's library, for use in training examiners.

Ethics curriculum. Ethics is a cornerstone for scientific and research endeavors. For forensic psychophysiology to become a scientific discipline, and for polygraph examiners and researchers to understand their responsibilities to society and the persons they examine, the Institute must develop and promulgate ethical considerations. The Institute has awarded a grant

to an ethicist to develop a 3 credit graduate level ethics course leading toward an eventual degree in forensic psychophysiology. The course will be taught at the Polygraph Institute.

DOD Polygraph Institute Studies Completed in Fiscal Year 1993

New physiological measures and equipment:

Eye Movement in Deception. Another agency conducted a major study of how eyes move during deception. Their funding expired before all the data could be analyzed. The Institute funded the analysis of the most promising of the remaining data. The additional analysis failed to find a useful relationship between eye movement and deception.

Axciton Evaluation. The Institute has evaluated several computerized polygraphs. This year the Institute completed its evaluation of the Axciton polygraph. The Institute found the equipment and applications software to be user friendly and effective. However, the analytical software for ranking the size of reactions needs some improvement.

Diverse Sensors. Sensors on the traditional polygraph are much the same as they were in the 1930's despite important advances in biomedical technology. This study compared a number of different methods for recording respiration, electrodermal reactions, and cardiovascular activity. The Institute found that the traditional sensors are generally the best suited for measuring and recording these physiological reactions.

Validation of a Systolic Time Interval (STI): RWCPI. Systolic time intervals measure how long it takes for various phases of the heart beat to occur. Previous research has found that they may be useful for detecting deception. It is a tedious and error-prone task to analyze the computerized data by hand. The Institute contracted with Delta Biometrics to develop software for quantifying the STI known as RWCPI. The contractor also built a Vagal Tone Monitor and conducted a study to determine the influence of sympathetic and parasympathetic activity on the heart. The Institute learned that STIs reflect a complex interplay of sympathetic and parasympathetic influences. They are a good indicator of changes in the level of parasympathetic activity. It has always been known that the sympathetic nervous system is heavily involved in reacting to lies. It now appears that the parasympathetic nervous system is much more involved than previously known.

Evoked potentials for identifying training. The Institute collaborated with the FBI in a study of how brain waves can be used to identify people who have been trained in espionage. The goal was to develop a security screening test to identify persons who have been trained in espionage by foreign countries. The initial study showed promising results, but the project is now on hold because of higher priorities in other areas.

New methods and techniques:

Subliminal Conditioning in the Detection of Deception. There are times when we would like to find out if an agent employed by a foreign intelligence service knows certain people; yet we don't want that service to learn what names we know. Will people react to names they know, even if the names are flashed on a screen subliminally, for such a short time that they can't consciously read and remember them? This study explored this question. The Institute learned that it is very difficult to design effective ways to present the stimuli; people could recognize the stimuli even when flashed for only a few milliseconds. This technique does not seem to be practical.

Validity and Miscellaneous studies:

The Relative Utility of the Forensic Disciplines. In a joint study with the U.S. Army Criminal Investigation Division Command, the Institute examined the correlation between the results of polygraph tests and other forensic lab tests. In total, 1,069 forensic examinations were reviewed. Polygraph exams accounted for 45 percent of them, and all other types of forensic examinations comprised the rest. In all categories, a higher solve rate was achieved when multiple forensic disciplines were utilized. In no case did the findings of one discipline contradict the results of another. The polygraph was both the most utilized discipline and the single most effective.

Subcultural factors. Is the polygraph biased against Afro-American or Hispanic subjects? Does the race of the examiner affect the accuracy of his decisions? This study assessed outcome accuracies of examinations conducted on Caucasian, Afro-American and Hispanic subjects by examiners of the same or different cultural backgrounds. Neither the subject's race nor the examiner's race had any reliable effect on the accuracy of the test.

Designed a Field Validation Study. How accurate is the polygraph in criminal investigations? Previous studies have not fully answered this question. The Institute contracted with Personnel Decision Research Institute (PDRI) to design a field validation study which would provide a definitive estimate of the polygraph's validity in criminal investigations. PDRI has submitted two designs, which will be reviewed by the Armed Services for their feasibility and by various researchers for scientific rigor. If the reviews are favorable, the next step will be a pilot study.

Comparison of Control Question Test (CQT) Effectiveness in Mock Crimes and Real Events. Is the polygraph as accurate in a "make believe" mock crime scenario as it is when a person is lying about something that actually happened in "real life"? This is an important question, because much of the Institute's research involves mock crime scenarios. The University of New Brunswick in Canada compared the effectiveness of the CQT in a mock crime versus real life. They found that the polygraph was equally accurate in both paradigms (mock crime and real events). This bolsters the confidence that can be put in research results involving mock crimes.

Polygraph <u>23</u> (1)(1994).
Demographic variables. Much of the Institute's research has been conducted on military recruits. But recruits differ from other people in many ways. They are young, in better shape than most people, but are often verging on exhaustion from their rigorous training. To assess the effect of differences between recruits and the general civilian population recruited from communities near the Army base, the Institute compared polygraph outcomes from those populations on such variables as 1) gender, 2) age, 3) urban or rural residence, 4) income, and 5) educational level. In general these variables had little impact on test outcome.

Situational variables. What happens to the accuracy of the polygraph if the subject is unusually tired, or is suffering from a cold or blistered feet? The Institute looked at several situational variables on the accuracy of polygraph outcomes. The variables included 1) number of hours the subject had slept prior to the test; 2) the subject's alertness during the test; 3) the subject's general health; 4) the subject's level of physical discomfort; 5) the subject's use of alcohol, nicotine, and coffee prior to the test. In general, the situational variables had little impact on test outcome.

Department of Defense Polygraph Institute Studies in Progress

New physiological measures and equipment:

Accuracy of (APL's) Polygraph Automated Scoring System (PASS) with mock crimes. PASS was developed from a combination of verified and unverified field cases. Because ground truth is often hard to determine, unverified cases were included if three examiners agreed on the interpretation of the polygraph charts. The Institute is comparing the accuracy of PASS to that of human examiners in an analog crime study in which ground truth was known for all examinations.

Evaluation of the Stoelting Computerized Polygraph System (CPS). The Institute conducted a user evaluation of the CPS. The manufacturer was briefed on the results. The final report will be submitted in 1994.

Event-Related Potentials (ERPs) in Prisoners. Event-related potentials are a type of brain wave activity that occurs when a subject recognizes the significance of certain stimuli, such as items of information one is attempting to conceal. Many studies have shown that this technique can be quite accurate. Most of the studies have used college students. We need to know if this technique is accurate when testing criminals. The Institute is planning a study of these brain waves using prisoners in the local jail. The study is awaiting coordination of legal aspects.

Event-Related Potentials and Long-Term Memory. The Institute is studying the effects of stimulus meaningfulness on the P300 brain wave. This experiment assesses the effect of long

term memory on the elicitation of the P300 wave. Does the active process of withholding information affect the P300 in some way, such as amplitude, latency, or duration?

Voice Spectrum Analysis. Voice analysis for detecting deception offers many advantages over conventional measures. With no attached sensors, the examinee would experience less stress. A person could be examined remotely by radio or telephone. The Institute is exploring differences in the spectral content of voice as a possible index of deception. The voice recordings of 46 subjects who were administered a number of tests are being digitized and analyzed.

Comparison of Cardio and Finapres Measures. The cardio cuff used to record heart rate and changes in blood pressure can be uncomfortable. The purpose of this study is to see if it can be replaced by more comfortable sensors. The Institute collected cardiovascular data from 110 subjects, half of whom were guilty of committing a mock crime. The cardio cuff and a Finapres were used to record cardiovascular changes. The data is being analyzed.

New methods and techniques:

Event-related Control Stimuli. This study seeks to develop a polygraph test which does not depend on conventional, privacy-invading control questions. All questions on the test refer to the matter under investigation. Decisions would be based on a rank order scoring of the pattern of reactions among the relevant questions. The Institute has collected the data and the preliminary analyses are promising.

Test of Espionage and Sabotage (TES). TES was developed to improve the accuracy of security screening. The Institute conducted an analog study comparing the effectiveness of the standard Counterintelligence-scope Polygraph (CSP) examination with conventional control questions, CSP with directed lie control questions, and TES with directed lie controls. The tests were equally accurate at clearing the innocent subjects, but TES was more accurate than either CSP at identifying the guilty subjects.

TES Replication. The findings of any individual study mean little because many factors influence what results are obtained. Before policies or procedures are changed to reflect research findings, the findings should be verified. The Institute replicated the previous study by comparing the TES with directed lie controls against the CSP. Again, the TES was significantly more accurate than the CSP, with fewer inconclusives.

TES Expansion. Some 27 examiners from 8 federal agencies participated in a study at the Institute to determine whether the size of the physiological responses to TES questions reflects the specific questions the programmed guilty examinees were lying about. The computerized data collected is being analyzed by APL to develop a scoring algorithm for TES.

TES Field Study. The Institute developed a preliminary design for a field study to provide a comparison of the TES results with CSP results from the previous year. The design many be modified as dictated by field experience.

Countermeasures:

Countermeasure Data Collection (CM-1). The control question test (CQT) is the most widely used type of polygraph test. The Institute has contracted with APL to develop a countermeasure detection algorithm. The Institute has 30 subjects deny which of five cards he had selected. The subjects engaged in countermeasures to create reactions to one of the unselected cards on the test in an effort to mislead the examiner. The physiological data has been provided to APL.

Countermeasure Data Collection (CM-2). To gather more data for APL, the Institute conducted another study under somewhat different circumstances. Each of 30 subjects denied which of ten cards he had selected, and tried to mislead the examiner by creating reactions to an unselected card. The additional data has been provided to APL.

Validity and Miscellaneous studies:

Accuracy of repeated testings. The Institute had half of 46 subjects memorize a number included in a numbers test; the other half memorized a number not covered by the test. All subjects were administered a numbers test immediately after memorizing the selected number. They were again tested at least six days later. Data collection is in progress.

USPO Field Validity. Critics of the polygraph claim that the polygraph cannot clear the innocent criminal suspect in real-life examinations. Analog studies cannot answer this question, because mock-innocent subjects are not very worried about failing the test; nothing bad will happen to them if they are falsely accused. It is hard to answer this question in most field studies, because relatively few innocent criminal suspects undergo polygraph examinations. What is needed are situations in which many innocent suspects are tested, the case is solved by the confession of the guilty person, and it can be established that the guilty person acted along. The U.S. Post Office has a number of cases that meet these requirements. In a joint study with the Post Office, the Institute has collected data from 189 polygraph field examinations. Thirty-two variables from these cases have been entered into a data base for analysis. Additional data is being collected.

Electrodermal Reactivity. This study investigates the relationship between individual differences in electrodermal reactivity and anxiety and their relationship to performance on a control question test. The following issues are being examined: a) habituation of the electrodermal response, b) magnitude of responses to control and relevant questions, c) response magnitude and individual difference variable scores, and d) numerical scores.

National Security Agency Studies Completed in Fiscal Year 1993

Algorithm to Analyze Polygraph Results. In 1993, NSA completed development and field testing of an analytic algorithm to classify computerized polygraph examination results. The final algorithm was delivered to NSA by the Applied Physics Laboratory of the Johns Hopkins University (APL/JHU) on 14 October 1993. The algorithm is designed to analyze the results of single issue, control question types of polygraph examinations. Field studies and cross-validation of the APL/JHU work indicate that the use of this algorithm will significantly reduce inconclusive test diagnoses while increasing overall validity. The algorithm was developed from real criminal cases conducted by city, county, state, and federal law enforcement agencies. The completed algorithm has been distributed to all federal agencies that have polygraph programs. The algorithm has also been provided to the DoD Polygraph Institute for use in its basic and specialized training courses.

Effectiveness of the Symptomatic Question. A study has been completed on the use of the symptomatic question in terms of its influence on polygraph results. Several well regarded polygraph experts have theorized that a bothersome outside issue to the person taking a polygraph examination may be the cause of inconclusive polygraph diagnosis. This study investigated whether or not the insertion of a question into the format to identify bothersome outside issues reduces the inconclusive rate. The results indicate that the inclusion of a symptomatic question significantly reduces inconclusive diagnoses in single issue control question type examinations.

National Security Agency Studies in Progress

Polygraph Computerization. APL/JHU continues to work on a multiple issue algorithm as well as work on an analytic algorithm for screening examinations. Real screening examinations are being supplied by two federal agencies and by four law enforcement agencies using the format directed by the federal agencies to collect data for the screening algorithm. A prototype algorithm is scheduled for delivery to NSA on 30 April 1994. This will be distributed to agencies for field testing and further data collection in anticipation of a final algorithm on 30 September 1994.

Study of Cognitive Arousal Levels. The psychological literature indicates that differences may exist between cognitive arousals and emotional arousals. With pervasive changes occurring in the conduct of polygraph examinations, including the introduction of questions designed to produce cognitive arousals, this study is investigating the difference in these arousal levels and windows of occurrence. This research is being conducted to give better insight into the evaluation process where cognitive (directed lie) questions are involved in the comparison measure.

APPENDIX A

DEPARTMENT OF DEFENSE POLYGRAPH PROGRAM STATISTICS FY 1993

| 070 |
|--------|
| 970 |
| 17,970 |
| 1,820 |
| |





* Includes examinations conducted in support of personnel security, counterintelligence and intelligence operations, and all other examinations that are not reported under the *Criminal*, *Exculpatory*, or *Counterintelligence-scope* categories.

** Does not include polygraph examinations conducted by the National Security Agency (NSA).

APPENDIX B

EXAMPLES OF HOW THE POLYGRAPH WAS USED IN FISCAL YEAR 1993

Polygraph Utility in Counterintelligence and Security Matters

A U.S. Army member was a suspect in an espionage investigation. The investigation failed to confirm the member's involvement in espionage activities. The member agreed to take a polygraph examination. The results of the polygraph examination indicated deception. When confronted with the results of the examination, the member admitted to engaging in espionage activities against the U.S. The member was arrested by the Federal Bureau of Investigation and is awaiting trial.

A source advised of planned terrorist attacks against U.S. personnel and facilities in an overseas location. A polygraph examination was conducted to confirm the source's information. Based on this confirmation, U.S. and host nation security personnel were able to take appropriate action to secure the facilities. Host nation police subsequently arrested several individuals at one of the facilities, thus thwarting any terrorist attacks.

A Marine member assigned to an overseas post was suspected of having a sexual relationship with a female foreign national from the host country. The host country is considered a "designated country," and there exists a non-fraternization policy regarding socializing with the local population. A polygraph examination was conducted on the marine member, the results of which indicated deception. The Marine member admitted having the relationship with the local female and advised that she had queried him regarding the consulate facility and his duties. He further admitted that he may have orally provided her classified information regarding his previous assignment.

A cleared government contractor was administered a counterintelligence-scope polygraph examination as part of his reinvestigation. During the examination he advised that while performing work on a contract for another government, he was asked questions by representatives of that government about U.S. classified information, which he avoided answering. These questions continued during future meetings, and included open and aggressive requests to provide sensitive classified Department of Defense information. Prior to the polygraph examination, he had failed to report these foreign attempts to solicit classified information from him.

A personnel security investigation disclosed that the individual being investigated was arrested in 1984 for the murder of her boyfriend. However, she was not prosecuted even though allegedly she initially confessed to the murder. During her personnel security investigation

interview, she claimed that she was innocent and blamed the killing on a cousin. She agreed to take a polygraph examination to support her denial. The results of the polygraph examination indicated deception. Subsequently, she confessed that she had committed the murder by shooting her husband six times. She disposed of the murder weapon by tossing it into a passing train as she was crossing a nearby railroad track after leaving the murder scene. This information was referred to the local authorities for investigation. This individual was arrested and is currently awaiting trial.

A cleared government contractor admitted during a counterintelligence-scope polygraph examination, administered as part of his reinvestigation, to intentionally sabotaging U.S. computer software. He explained that he was angry because he had been denied permission to accompany his work team during a trip to test software which he helped develop. Vindictively, he deliberately modified the software causing it not to perform properly during the test. He then prepared computer commands to correct the malfunction, so he would be ready to help the test team correct the problem. As anticipated the software malfunctioned. The test team requested help, which he was immediately able to provide. The second test was successful. Subsequently, he was able to modify computer records thereby eliminating any evidence of his sabotage of the software.

An Army member was afforded the opportunity to take a polygraph examination to verify her denials of past and present usage of illegal drugs, which was developed during a routine personnel security investigation. During the polygraph examination she admitted usage and involvement with illegal drugs.

An applicant for civilian employment with a government agency was administered a polygraph examination as part of his initial security processing. The applicant listed no criminal activity on his security forms. During the polygraph examination, he admitted stealing computer software and hardware valued at \$4000 from his current employer. He further admitted that from his early teens through his mid 20's, he sexually abused many children, ages two through eight. At age 27, he contemplated touching his brother's three daughters, but, finally decided it was crazy to do so. Although this contemplation occurred many years ago and was his last involvement, he still considers himself a pedophile who finds children sexually appealing.

A contractor seeking a government security clearance was administered a polygraph examination as part of his security processing. On his security forms he stated that he used marijuana 10 times from 1981 to 1991. During the polygraph examination, he admitted using marijuana two to three times a week and purchasing it once a week from May 1988 to the present. He also admitted using hashish five times from 1988 to 1992 and cocaine 20 times from 1988 to 1993.

During a personnel security investigation of an Air Force member, information was developed that in 1991 the member took his three-year-old daughter to the base hospital for treatment. A medical examination disclosed that the child had a yeast infection. It was the

Polygraph Program - United States Department of Defense

opinion of the medical personnel, due to various physical signs, that the child had been sexually abused. An investigation was conducted following which the case was dropped. When this came up during the personnel security investigation interview of the member, he again denied that he had abused the child and agreed to a polygraph examination. The results of the polygraph examination indicated deception. Subsequently, the member was interrogated and confessed to sexually abusing his daughter.

During the personnel security investigation of a Navy member, it was learned that in 1986 the father of the member was murdered in his home. The weapon used was a .22 caliber rifle owned by the member. Subsequently, the member's mother was tried for the murder. The member testified against his mother, but she was acquitted. It was also learned that the member was a suspect in the case and that he had inherited \$200,000 as a result of his dead father's insurance. When interviewed during the personnel security investigation, he denied any complicity in the murder and agreed to take a polygraph examination to support his denial. The results of the polygraph examination indicated deception. The member was interrogated and confessed to killing his father.

An Army member agreed to undergo a polygraph examination to verify his denials of past and present usage of illegal drugs, which was developed through a routine personnel security investigation. During polygraph testing, he admitted to selling and using illegal drugs. he also admitted to involvement in the larceny of a motorcycle at the age of 18.

During a personnel security investigation of an Army Reserve member, it was learned that in 1991 the member attempted to join the South African Permanent Force through the South African Consulate. Further, she admitted that while on active duty, she had cohabited with a Jordanian air defense officer with whom she had fallen in love and still corresponds with. It was also determined that as a result of her contacts with the South African Consulate, she had been questioned by another federal agency. The member agreed to take a polygraph examination during which she admitted to the unauthorized disclosure of U.S. air defense information to her foreign contacts. Following referral, the other federal agency reassumed jurisdiction and opened an espionage investigation of the member.

During a personnel security investigation of a military member, it was learned that the member had been investigated two years earlier for the alleged rape of a 13-year-old girl in his barracks room on the military installation. However, the investigation failed to prove the allegation. When questioned during the personnel security investigation, he again denied the rape and agreed to take a polygraph examination to support his denial. During the polygraph examination, he admitted to having sexual intercourse with the girl but contended it was consensual. He was then tested regarding the use of force against the girl. The results of the polygraph examination indicated deception and the member confessed that he had forced the girl to have sex.

Polygraph Utility in Criminal Matters

An investigation was initiated as a result of information received that an Army member had unlawfully received over \$8,000 in payments over a three year period for quarters allowance to which he was not entitled. The investigation determined that the member in fact resided in government quarters, yet continued to receive quarters' allowance for which he was not entitled. When interviewed, the member stated that he initially did not realize he was receiving unauthorized money; however, when he did, he placed an inquiry through the local finance office to stop the payments. The member denied that he was knowledgeable about receiving the unauthorized money and consented to take a polygraph examination. The examination results indicated deception. The member subsequently confessed that he had not notified the local finance office to stop the payments and knew that he should not have received the money.

A Navy member was suspected of sexually molesting his five-year-old step-daughter. He agreed to take a polygraph examination which was evaluated as deceptive. The member was confronted with the results of the examination and confessed to sexually molesting his step-daughter.

An investigation was conducted on a civilian government employee following allegations that he had accepted cash bribes from a majority partner of a freight forwarding contractor. Investigators found records of the government employee receiving three \$1,000 cash transactions through Western Union. The employee acknowledged that he received the \$3,000, but claimed that the money represented winnings from wagers placed with an unknown "bookie" in New Jersey. The employee was administered a polygraph examination and subsequently confessed that the contractor had offered him the money for future consideration. He said that it was the contractor's idea to have an unknown associate wire the money from a Western Union office in order to cover up the true source of the money.

The 14-year-old daughter of an Army member initiated a complaint that, during a six month period, she had been raped by her step-father. When interviewed, the step-father denied the allegations and stated that his step-daughter had made a false complaint because she had recently been in trouble. The step-father agreed to undergo a polygraph examination regarding the allegations. The examination results indicated deception. The step-father subsequently confessed that he had indecently assaulted his step-daughter.

The snack bar at a Base Exchange on an Air Force Base was robbed of approximately \$3,000 just prior to closing. The supervisor advised that based on the physical description, the perpetrator was possibly the husband of a store employee. The employee was working the night of the alleged robbery. The employee was administered a polygraph examination and was found deceptive when she denied knowing who robbed the snack bar. Subsequent to the examination, she stated that it was her husband. The husband was arrested as a result of the employee's statement.

An Army female member reported that she had been raped by an Army male member in his barracks room. She stated she went to the male member's room to visit him and while there, was forced to have sexual intercourse with him against her will. The female stated she attempted to stop the advances of the male, but, failed to deter his advances. The male denied forcing the female to have sexual intercourse, stating that the sex act was consensual, and the female had initiated the sex act. The male took a polygraph examination which indicated deception when he denied forcing the female to have sex with him. The male subsequently confessed that he had forced himself on the female, and knew that she was attempting to resist his advances.

A Department of Defense contractor was identified as having paid gratuities and bribes to U.S. government inspectors in return for their cooperation in allowing the contractor to substitute non-conforming, foreign made, parts on U.S. and foreign military sales contracts. The contractor was already on federal probation for an earlier violation and was cooperating with another federal investigative agency when the above violation took place. In conjunction with a plea agreement, the contractor agreed to take a polygraph examination. During the examination, he admitted additional instances of substituting foreign made parts and named other contractors with whom he had jointly participated in these schemes. He also told of deliberately substituting unordered parts for items which he did not have in stock and collecting from the government as if the order had been correctly filled. The contractor also admitted to bribing foreign officials (whom he named) with cash, and in one instance an automobile, through his foreign sales agents. He also admitted to telling one potential target of an investigation of his cooperation with the government.

A Marine Corps member was suspected of engaging in sexual intercourse with a 13-yearold female at her residence. The marine Corps member denied any sexual contact with the girl. The member consented to a polygraph examination, the results of which indicated deception regarding the denial. Subsequent to the examination, the member admitted to engaging in sexual intercourse and oral sex with the girl on several occasions.

An investigation regarding the alleged sabotage of a C-141 aircraft was initiated. After several hundred interviews, three Air Force members remained under suspicion, including the Air Force member who had discovered the alleged sabotage. All three individuals were given polygraph examinations. Subsequent to these examinations, two of the individuals were exonerated. The third individual, who discovered the alleged sabotage, was evaluated as deceptive during his examination and subsequently confessed that he had set the aircraft controls so that the landing gear would collapse. He reported it in order to gain recognition.

An investigation was initiated regarding a contract administered by the Army Corps of Engineers for gate attendants at a campground. The investigation determined that during a two year period, \$3,000 had been diverted from user fees. In particular, it was determined that registration fees were being accepted without receipts being provided. The gate attendants were interviewed and denied stealing any money or having any complicity in this matter. One attendant agreed to undergo a polygraph examination to verify her denial. The polygraph results

indicated deception. The attendant then admitted to stealing registration fees, visitor fees and altering documents to reflect lesser amounts collected than were actually being recovered.

A Navy member was suspected of sexually molesting a three-year-old boy while acting as the boy's baby-sitter. The member was administered a polygraph examination which was evaluated as deceptive to the relevant issues. When confronted with the deceptive results, the member confessed fondling the young boy as alleged.

An investigation revealed that the plant superintendent of a Department of Defense contractor had instructed employees to use an unauthorized silicone sealant to make torpedo and missile containers pass required air pressure tests. At a plea negotiating meeting, the defendant denied committing the offense, claiming that he had the approval of the government inspector at the plant. The defendant agreed to undergo a polygraph examination. During the polygraph examination, the defendant confessed that he was responsible for the use of the sealant and that he is doubtful that he ever told the government inspector of this practice.

An investigation was initiated as a result of a wife of an Army member being found dead in their on-post quarters. The investigation had determined that the woman had been strangled with an electric cord from a television set which was located in the children's bedroom. The husband had reported that he had found his wife hanging from the shower rod with the shower running. The crime scene examination refuted this, as there was no sign that the shower had been on. Additionally, the crime scene examination revealed the presence of a blood soaked shirt which was located in an upstairs hallway. No other traces of blood were found at the crime scene, and there was no explanation for this shirt. An autopsy of the victim could not rule out foul play. The husband denied any wrongdoing in the death of his wife and consented to a polygraph examination. The examination results indicated deception. The husband then confessed to having hung his wife with the cord after she had used the cord to spank their fouryear-old son.

A Navy member was suspected of stealing two government owned .45 caliber pistols from a shipment of 11 pistols sent to Indiana. The shipment was prepared by the Navy member from aborad his assigned ship, however, only nine pistols were received in Indiana. The member denied any knowledge or complicity regarding the theft. The member agreed to undergo a polygraph examination which was evaluated as deceptive. Subsequently, the member confessed to the theft of the two missing pistols and identified another member to whom one of the pistols was provided.

A Marine Corps member was suspected of causing injuries to his 11-month-old daughter. The injuries consisted of bruises around the eyes, the neck, and below the right side of her temple. The member claimed that his daughter had fallen down the stairs at their residence. The member agreed to undergo a polygraph examination which was evaluated as deceptive to the relevant issues regarding the injuries to his daughter. Subsequently, the member confessed to causing his daughter's injuries by striking her in the nose with an open hand and squeezing her head and face with his hands to stop her from crying.

An Army member reported that during a five-month period person(s) unknown had negotiated 22 of his checks at the finance office for a total value of in excess of \$10,000. The Army member stated that he had inadvertently left his checkbook in a barracks room, which he had since vacated. He also stated that his ID card was lost during the period these checks negotiated. The investigation determined that the negotiated checks appeared to have been written by the member. The investigation failed to identify any suspects. The member was then afforded the opportunity to undergo a polygraph examination to prove the veracity of his complaint. The polygraph examination results indicated deception. The member then confessed that he had falsely reported his checks and ID card as being stolen to cover up for the fact that he had insufficient funds to cover the checks he had written.

A male Air Force member allegedly raped a female Air Force member in her on-base dormitory. The female advised that she awoke and found herself nude, and the male was having non-consensual sexual intercourse with her. When interviewed, the male stated that he had consensual sex with the female. The male agreed to take a polygraph examination regarding the matter. The examination indicated deception to the relevant issues. Subsequently, the male confessed that the female told him that she did not want to have sex and that he was not sure the female was awake during sexual intercourse.

An investigation was initiated based on a complaint made by an Army member that his 1989 Chevrolet Beretta, valued at \$5,500, had been stolen from his address on Fort Hood, Texas. The vehicle was subsequently found near Waco, Texas, burning in a field. The member had both sets of keys to the vehicle in his possession, and there was no debris at the site from which the vehicle was stolen. The member was re-interviewed and denied fabricating his complaint of larceny. The member consented to undergo a polygraph examination. The examination indicated deception. Subsequently, the member confessed to having entered into a conspiratorial agreement with another Army member to fake a larceny and destroy the vehicle. The member also confessed to submitting a false claim to his insurance company and receiving \$6,002.43 for the automobile.

A male Navy member was suspected of the rape of a female acquaintance while she was asleep in her residence. The Navy member was considered a friend of the female and was spending the evening at her residence agreeing to sleep on the couch. The female advised that she was awakened in her bed with the Navy member engaging in sexual intercourse with her without her consent. The Navy member agreed to undergo a polygraph examination. The examination results indicated deception to the relevant questions. The Navy member subsequently confessed to having sexual intercourse with the female while she was asleep and without her consent. An investigation was initiated regarding the theft of a credit card from the U.S. mail system. The investigation determined that a female Army member, who worked in the mail room, had stolen the card which was in the name of a male U.S. civilian worker in Seoul, Korea. The female member enlisted the aid of a male member, forging the signature of the civilian worker, and charging in excess of \$3,000 in goods purchased in Seoul, Korea. The two Army members were interviewed and implicated a third Army member as being a conspirator to the larcenies after the credit card was stolen from the mail system. The third member was interviewed and denied all allegations implicating her with the forgeries and larcenies. The third member agreed to undergo a polygraph examination. The examination results indicated deception to the relevant questions. Subsequently, the third member confessed to her involvement in the illegal purchases and surrendered approximately \$1,400 worth of stolen merchandise which she had in her possession.

Polygraph Utility in Exculpation

An audit of the Chaplain's fund at Fort Leonard Wood, Missouri, indicated a loss of \$10,000. An investigation identified an Army member, the fund manager, as the only person who had access to all the finds that were missing. The member was interviewed and denied all allegations against him and requested a polygraph examination to clear his name. The results of the examination indicated deception to the relevant questions. The member subsequently confessed to stealing the missing funds.

An Army civilian employee requested a polygraph examination to verify his version of information developed during a personnel security investigation. The civilian employee had been notified that his security clearance was going to be revoked. The polygraph examination indicated no deception and the civilian employee retained his security clearance.

A Navy male member was suspected of engaging in sexual intercourse with a Navy female member while she was allegedly asleep. The female claimed that she neither desired sex from the male nor provided her consent. The male requested an exculpatory polygraph examination claiming the female was awake and willingly participated in the sex act. The results of the examination indicated that the male was non-deceptive to the relevant questions. Upon re-interview, the female admitted that she was awake during the sex act and her consumption of alcohol prompted her willing participation. She admitted that no crime had been committed as originally alleged.

* * * * * *

IS THE GUILTY KNOWLEDGE POLYGRAPH TECHNIQUE APPLICABLE IN CRIMINAL INVESTIGATIONS? A REVIEW OF FBI CASE RECORDS

By

John A. Podlesny

Abstract

The Guilty Knowledge Technique is a method that involves the detection of knowledge about a crime as a means for inferring deception. It has been advocated as an alternative or replacement for the commonly used Control Question Technique in investigative polygraph examinations. However, guilty knowledge tests have rarely been used in actual investigations, and some authors have suggested that practical considerations prevent their widespread use. In this study, a sample of closed criminal cases in which control question examinations had been used was reviewed to assess the possible applicability of the Guilty Knowledge Technique in those cases. The review indicated that guilty knowledge tests might have been used in 13.1% of the examinations (95% confidence interval for similarly selected examinations: 4.9% to 21.4%). A large proportion of the remaining examinations were conducted under circumstances that would not be amenable to the use of guilty knowledge tests, even with much effort. The results, although not fully conclusive for reasons that are discussed, indicate that the Guilty Knowledge Technique might be applied in a small proportion of FBI cases, but there is no basis to consider it as a general replacement for current methods. Therefore, recent reports of novel physiological parameters and methods of analysis for use with guilty knowledge tests may be of limited practical value relative to criminal investigations.

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Benjamin Burack (1955) described a "disguised questions test" in which the details of a crime that were not known to innocent persons might be used to identify guilty persons. A few years later, Lykken (1959) conducted a laboratory study in which he was able to detect "guilty knowledge" by comparing subjects' skin resistance responses to correct and incorrect information related to simulated crimes. Further research (Davidson 1968; Podlesny and Raskin 1978) also demonstrated the laboratory validity of "guilty knowledge tests" (GKTs; Guilty Knowledge Techniques are also termed GKTs). In those studies, the GKTs consisted of five to six series of alternatives, of which one in each series was correct (a "key" item). Subjects who produced their strongest and most consistent skin resistance responses to the key items were inferred to have guilty knowledge.

Advocates to the GKT have presented it as an alternative to, as a "rival" of, or as a replacement for control question methods that are the mainstay of federal investigative polygraph programs (Ben-Shakhar 1991; Ben-Shakhar and Furedy 1990; Furedy and Heslegrave 1991; Iacono and Patrick 1987; Kleinmuntz and Szucko 1982; Lykken 1991, 1988, 1981). Lykken (1992, 319) suggested the "careful, exploratory use of the GKT by police agencies in real-life settings." Possibly as a result of concerted advocacy by those authors in recent years, there has been increased interest in the GKT within the federal polygraph community, and the Department of Defense Polygraph Institute has begun to instruct students in its use.

Despite laboratory successes and vocal advocacy, GKTs rarely have been used in actual criminal cases. Some authors have suggested that the availability of crime details to innocent suspects in actual cases generally would not permit the use of GKTs (Abrams 1975; Forman and McCauley 1986; Podlesny and Raskin 1978; Raskin 1988; Raskin and Kircher 1991). Kircher and Raskin (1992) described the following impediments to the application of GKTs:

There are several practical problems that prevent widespread use of the [guilty knowledge test], some of which concern the circumstances surrounding many crimes. Details of a crime that may seem quite distinctive and memorable to an investigator or polygraph examiner may have gone unnoticed or been forgotten by the perpetrator because of emotional stress, confusion, inattention, or intoxication during the crime. It is often a difficult task for an investigator or polygraph examiner to identify details of a crime that are likely to be recognized by the guilty suspect during the test. ...

The utility of the [guilty knowledge test] is also limited because innocent subjects frequently are informed about the details of the crime prior to taking a polygraph test. It is common practice for police investigators to disclose details of crimes to suspects in the process of interrogation, news media publicize the details of many crimes, and defense attorneys usually discuss the details of police reports and allegations with their clients. Thus, the majority of criminal suspects have knowledge of the critical crime information and are not suitable subjects for [guilty knowledge tests].

John A. Podlesny

Many criminal investigations do not lend themselves to [guilty knowledge tests] because there is no special information that is unknown to potential polygraph subjects. Such situations include allegations of forcible sexual assault when the accused claims that the sexual acts were consensual, claims of selfdefense in physical assault and homicide cases, and crimes in which the suspect admits having been present at the scene but denies any criminal participation.

Even David Lykken (1974, 728), the main proponent of the GKT, has pointed out that 'the guilty knowledge method simply cannot be used in many situations in which the lie detector is now used, and it almost always will require much more careful preparation and pre-investigation than does a lie detector test."

Recent reports of Israeli research indicate that the applicability of the GKT may, in fact, be limited by a lack of sufficient key information (crime details that are known only to the investigators and the guilty persons). Two studies of actual cases in which GKTs had been used produced essentially the same results: small numbers of key items and high false negative rates (Elaad 1990; Elaad et al. 1992). In those studies, the number of key items ranged from one to six, averaging only 2.0 and 1.8, respectively. The authors suggested that the small number of keys may have been a cause of the high false negative rates (42% and 38%, respectively). As the sampling of cases was random in those studies (Elaad 1990, 522; Elaad et al., 1992, 758), and no other studies have quantified available key information, those results provide the best available estimate regarding the numbers of key items in GKT examinations conducted in actual cases. The small number of keys might be attributed either to a failure to make sufficient use of available key information or to a lack of such information. It should also be noted that those studies provided no information regarding the number of cases that were not selected for study because no GKTs were used. Those empirical results do not support Lykken's (1988, 304) suggestion that the "assumption that appropriate GKT items could not be formulated in field situations ... [is] overly pessimistic in most specific-issue situations in which polygraphic interrogation might be contemplated."

Recent studies of GKTs have addressed validity with physiological recordings other than or in addition to skin resistance/conductance (Boaz *et al.* 1991; DOD 1992, 11; Farwell and Donchin 1991, 1988; Forth *et al.* 1989; Rosenfeld *et al.* 1987) or variables affecting validity (Bradley and Rettinger 1992; Furedy and Ben-Shakhar 1991); Bashore and Rapp (1993) advocated scientific exploration of brain event-related potentials in conjunction with the GKT.

However, potential benefits of the GKT depend not only on its validity but also on its applicability. Even a highly valid method would be limited by low applicability. Other than the two Israeli studies (Elaad 1990; Elaad *et al.* 1992), there is a lack of empirical information regarding applicability, and there have been no studies directly addressing applicability. The goal of this study was to obtain an estimate of the population of FBI criminal investigative cases in which GKTs might be applicable by reviewing case records for the availability of possible GKT key information.

METHOD

A sample of 61 examinations was selected from the control question polygraph examinations conducted by the FBI in criminal cases between October 1, 1980 and November 9, 1984. The sample did not include cases currently under investigation, cases with files larger than three volumes (six cases), cases involving national security information, or cases for which files could not be found. Otherwise, the sampling was random. The odd sample size was the result of attrition from an original sample of 100 examinations due to those selection factors. The sample of cases had been obtained in 1985 for a field validity study of Control Question Techniques (CQTs).

An assistant reviewed the related case files to determine the nature of each case and the polygraph issues of each examination. The assistant searched each case file for possible GKT key information. To be considered as a possible key item, case information was required to be: (1) a specific case fact, (2) very likely known to the guilty person(s), and (3) apparently not known to innocent persons (Lykken 1981, 299). For each case, the assistant provided a written case summary, a list of the examination questions (which were indicative of the reason(s) for the examination), and a list of possible key items. The assistant also provided an explanation for those cases in which she was unable to identify any key items. The author reviewed this summary information and clarified it, as necessary, through discussion with the assistant and review of the related files. The case reviews were categorized according to the number of possible key items, whether the key information had been revealed to the examinee or to the news media, and whether the examinee had a legitimate reason to know the key information. The number of examinees in each category was tallied. The examinees were treated as the natural unit rather than the cases because three of the case files subsumed two examinations each. No GKTs had been used in any of the examinations.

RESULTS

There were four examinees with six possible keys, three with five possible keys, and one with four possible keys, for a total of eight (13.1%) with four or more possible keys. A statistical bootstrap resampling method (Efron and Tibshirani 1991; Simon and Bruce 1991) was used to estimate a 95% confidence interval for the percentage of examinees with four or more keys in FBI cases meeting the same selection criteria as those in this study. This produced a 95% confidence interval of 4.9% to 21.3%, indicating that the actual percentage of examinees with four or more possible keys is very unlikely to be larger than 21.3% or less than 4.9%.

In addition, there were three (4.9%) examinees with four or more items of information that met criteria numbers one and two described in the previous section, but which had been revealed to the examinees or the news media. Considering these as potential key items and assuming that the release of the information could have been avoided in anticipation of using a GKT, the total number of examinees with four or more potential key items was 11 (18.0%). The corresponding 95% confidence interval is 9.8% to 27.9%.

John A. Podlesny

The remaining 50 examinees (82.0%) were associated with cases in which no possible or potential keys could be identified for various reasons. Forty-five (73.8%) of the examinees had legitimate reason to know the details of the crime that were known to the investigators. Examples include cases in which the examinees were or claimed to be victims; or had been involved in the investigation or otherwise associated with the events surrounding the incidents (such as bank supervisors or employees); or were the only source of case information, as in examinations to determine the veracity of sources or allegators. For 35 of these examinees (57.4% of the total), there was also a lack of independently developed facts. Many of these files referred to "mysterious" events or disappearances. For the rest of the examinees, there was either a lack of independent facts (three examinees, 4.9%) or insufficient information in the file to determine if possible keys existed (two examinees, 3.3%).

DISCUSSION

Subject to the limitations discussed in the following section, the results indicate that GKT examinations might be applied in a small percentage of FBI examinations; the best estimate would be about 13% to 18%, although the actual percentage could be somewhat higher or lower. As it happened all of the cases with possible or potential keys had four or more keys, a number statistically sufficient for applicability. The results agree with those of the Israeli studies cited previously and with previous suggestions that GKTs would have limited applicability in actual cases. It is particularly noteworthy that a large proportion of the examinations had been conducted under circumstances that would not be amenable to the development of key items even with extensive investigation. The results imply that the GKT should not be considered as a replacement for current (CQT) methods as suggested by some authors except possibly in a small percentage of cases. Control Question Techniques are generally more applicable because they do not depend on the availability of key informational items.

Where overall caseloads are large, even a relatively small proportion of cases could be substantial. The examinations we reviewed were selected from a total of 7.720 control question examinations conducted between October 1, 1980 and November 9, 1984. An estimate of the total number of GKT applicable cases for that period based on our sample results would be 378 to 1644 (95% confidence interval of 4.9% to $21.3\% \times 7,720$). In cases where it is applicable, the GKT is a potential alternative or adjunct to other methods. Guilty knowledge tests might be introduced in those cases to provide increased protection against false positive errors (Iacono and Patrick 1987, 468).

Limitations of this Research

Although there have been no other empirical studies directly assessing the applicability of GKTs, this research may be insufficient for various reasons. The major limitation is that this study depended on file information alone. Additional sources of information, such as monitoring of ongoing investigations or interviews with case agent, s might reveal more cases of applicability or variables affecting applicability. Additional information sources might also reveal that fewer potential key items are actually usable.

There are also limitations related to the sampling method of this study. First, the sample was of examinations in which CQTs had been used. Control Question Techniques are used in the large majority of FBI investigative polygraph examinations, and this could indicate that polygraph examinations are generally requested in cases with little factual information. There could be broader applicability of the GKT in other kinds of FBI cases in which more information is available and examinations are not presently requested. Further, the sample is about a decade old; therefore, it may not be representative of more current FBI cases. Also, the elimination of six examinations having large files could have somewhat augmented or reduced the percentage of examinations; other agencies with differently distributed case loads may have different percentages of cases in which GKTs might be applicable. For example, a local metropolitan police department could have a large proportion of violent crimes which might produce more keys.

This study does not address the validity of decisions using GKTs (or CQTs). Validity information is essential to informed decisions regarding whether the GKT should be applied, even in cases where there is suitable key information. The results of recent studies (Elaad 1990; Elaad *et al.* 1992) raise questions about the field validity of GKTs.

Finally, this study did not attempt to determine the salience (conspicuousness) of the identified keys to the guilty person(s). It is believed that guilty person(s) must be familiar with the key items in order for a GKT to be effective (Lykken 1981, 1959; Raskin and Kircher 1991). The salience of key items may be affected by such factors as the passage of time, the examinee's characteristic interests, whether the information is acquired actively or passively, other misdeeds of the examinee, and the distinctness of key and nonkey (irrelevant) items used in the examination (Elaad 1990).

SUGGESTIONS FOR FURTHER RESEARCH

Due to the limitations of this research, various uncertainties remain regarding the applicability of GKTs. Some suggestions for further research on this topic are as follows:

1. Conduct research using broader sources of case information, such as interviews with responsible case officials, examination of news and other media reports, and monitoring of ongoing investigations. Select samples from more recent cases.

2. Obtain broader samples of case files, including fully random samples of investigative polygraph cases or of investigative cases in general. Conduct research on the cases of agencies outside the FBI, such as state and local

John A. Podlesny

investigative agencies to determine if differences in applicability exist between agencies.

3. Collect further information regarding foreign [e.g., Israeli (Elaad et al. 1992; Elaad 1990) and Japanese (Yamamura and Miyata 1990) applications of GKTs, particularly regarding successes and failures in attempts to apply GKTs to actual cases. Cultural variables that may influence applicability should be considered prior to generalization of foreign experience to US contexts.

4. Active attempts to apply GKTs in actual cases may meet with occasional success; however, researchers should use appropriate sampling schemes and provide full reporting of both applicable and inapplicable cases when assessing the extent of applicability.

Recently, there has been a proliferation of reports on the development of novel physiological parameters and methods of analysis to be used with GKTs (Bashore and Rapp 1993; Boaz *et al.* 1991; DOD 1992; Farwell and Donchin 1991; Forth *et al.* 1989; Richardson 1991; Rosenfeld *et al.* 1987). The practical significance of technical attempts to improve the GKT depends on the applicability of GKTs in actual practice. The results of this study, while not fully conclusive, suggest that the applicability of GKTs in investigations may be marginal and that the results of such research may be of practical value in a relatively small percentage of cases. Further applicability research is needed to determine the extent to which GKTs and technical improvements in GKTs are likely to provide practical benefits.

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APPELLATE DECISIONS INVOLVING POLYGRAPH ISSUES

By

Norman Ansley

The most important case affecting polygraph admissibility in recent years did not have polygraph as an issue. Daubert v. Merrell Dow Pharmaceuticals makes the introduction of scientific evidence easier in Federal cases under Rule 702 by removing the Frye decision as a standard. The full test of Daubert appears in Polygraph (1993) 22 (3) 270-283. Daubert, however, does not mean that polygraph results are automatically admissible. See U.S. v. Black. Attorneys will still have to present evidence meeting Rule 702 requirements.

There are a number of cases, some say alarming, that suggest that a polygraph examination given for the purpose of gaining a confession, rather than serving purely an investigative role, are so inherently repugnant that the confession is inadmissible. This was the primary reason for overturning the conviction of a man who admitted after a polygraph examination that he burned his restaurant and warehouse for the insurance. In Amyot v. Her Majesty to Queen, a Quebec appellate judge overturned the conviction for that reason, but would have overturned it anyway for a matter relating to failure to give a warning required under the Charter. In State v. Craig, the Montana Supreme Court said the same thing, that a confession following a polygraph examination, something the Court officially abhors, is inadmissible. In Ouebec and Montana examiners may give their opinion, but are well advised to leave the interrogation to someone else, done some time later. In an article by law professor James E. Starrs in his private journal, Scientific Sleuthing, Starrs said he was of the opinion that the North Carolina court in State v. Willis indicates that tests are "inherently prejudicial to an accused." and so taint a confession in North Carolina.¹ I do not see that in *Willis*. I believe *Willis* was an attempt to get the polygraph results to the jury without violating the prohibition, an attempt that was not sufficiently subtle. I do think that polygraph examiners ought to stop teaching and saying that a polygraph examination has three parts: pre-test, test, and post-test. Any confession coming in the pre-test or post-test, despite a *Miranda* warning, may be so tied to the polygraph examination that they will be excluded. It has already happened in Johnson v. State, 208 Ga.App. 87, 429 S.E.2d 690 (Ga.App. 1993) in which the appellate court said the trial court erred in admitting the inculpatory statements of the defendant made during the pre-test and post-test phases of a polygraph examination because the examination was not stipulated, and therefore inadmissible under Georgia rules. We need to dissociate the pre-test and post-test phases from polygraph examinations, particularly to so-called post-test, as this teaching is unnecessary and imprudent. [Johnson v. State is abstracted in Polygraph (1993) 22 (2) 204.]

¹ Comes the polygraph. Scientific Sleuthing (1994) <u>17</u> (3) 9-10.

Polygraph examiners may be relieved at the Summary Judgment in *David v. Neiman Marcus, et al.* The U.S. District Court in Houston held the examiner and his company were not employers in the meaning of the EPPA, and may not be joined in a suit by an employee suing his employer under the Employee Polygraph Protection Act of 1988.

ABSTRACTS

Province of Quebec, Canada

Amyot v. Her Majesty the Queen, Province of Quebec, District of Montreal, Nos. 500-10-000015-837, 500-10-000141-877, and (705-01-000137-8353).

Defendant was convicted of arson that occurred at his restaurant, and he appealed.

Defendant claimed that the incriminating statement obtained from him should not have been admitted into evidence. That included his verbal statements obtained as a result of a polygraph test and the subsequent written statement. The appellate court noted that if the statements were inadmissible, the appellant has rightfully concluded that the residual evidence is totally insufficient and that he must be acquitted.

Some months after a fire in the warehouse and restaurant owned by the defendant, and insured, the police asked the defendant to come to the Quebec Police Headquarters in Montreal for an interview. He complied, was interviewed, and was asked to take a polygraph test. He agreed, without contacting his lawyer. The examination was conducted by Officer Claude Tremblay, who provided him with a seven-page document describing the test in some detail. The subject also knew that participation was voluntary and he could leave at any time. He signed a form which ended with "I understand that anything that I say may be used as evidence." He was asked if he wished to consult a lawyer, and he declined. After the test and analysis of the charts, the examiner informed him that he had failed the test, and that he had not been telling the truth.

The Court observed:

The polygraph technician referred to this further step as the post-test. Instead of merely informing the appellant of his test results, the technician tried to explain that this test failure did not tell him the truth about what had actually happened, in other words, he claimed that the 'results did not explain anything.' The polygraph technician tried to make his subject understand, through examples, that the latter could make things right, by telling the truth. The appellant, who lost his composure, asked the polygraph operator, 'What is going to happen now?' The technician, who obviously wanted to take advantage of this situation in the hope that the appellant would confess, answered him by saying ' that he could not say anything as long as he did not know the truth.' This exchange ended with the confused and tearful appellant confessing, admitting that he had set fire to his business.

The appellant was given the usual warning before taking his written statement. That warning, however, did not mention the right to contact a lawyer. He signed it and was released.

On appeal, the court found the statements were not admissible under the rules of Canadian jurisprudence and the Canadian Charter of Human Rights and Freedoms, which now by interpretation, can hold inadmissible a statement obtained by psychological pressures, and all subjective and objective factors that can have a bearing on the will of the person making the statement. The judge noted that polygraph test results are not admissible in evidence in Canada, the test is not infallible, and it does not detect lies. The judge said that the polygraph is used for only two purposes, either to eliminate the subject from a list of suspects or to if he believes the subject is lying then go further and attempt to confuse the individual by obtaining a confession that will lead him to the truth. Thus, said the Court, the instrument becomes a "confessioninducing instrument." The Court said it was obviously for the latter purpose the polygraph test was used in this case. The Court said the voluntariness established by the examiner and his form was valid only for the polygraph test per se. The document handed to appellant did not mention the "post-test," but mentions only one test. The judge said that it is in the way that police officers use the test that they are liable to abuse it and, thus, shed some doubts on the validity of this procedure. Here, the examiner did not tell the appellant he was free to leave, after telling him that he had failed the test. Rather, he went for a confession.

The judge said that in his opinion the procedure used by the polygraph technician constituted an example of undue intimidation, coercion and pressure that should have raised, in the mind of the Court of the first instance, somewhat reasonable doubts concerning the voluntary nature of the confessions.

The judge added an opinion on the future of police polygraph tests. He said that since the polygraph test results are no longer admissible as evidence, and considering the risks taken by the police, as in this case, it would be advisable to completely isolate the administration of this test from the examination that can lead to a confession. Otherwise, by factually linking a confession with a polygraph test, the accused is placed in an impossible situation, at his trial.

As for the Charter, the judge concluded after a lengthy examination of prior decisions and opinions, that these confessions were obtained in violation of the Charter right because the second confession, preceded by a warning was so connected in time with the earlier confession that it was invalidated by the circumstances that preceded it.

The appellant was acquitted by motion of the judge.

Second Circuit

United States v. Black, 831 F.Supp. 120 (E.D.N.Y. 1993)

Defendant was charged with conspiracy to defraud the United States by preventing the IRS from collecting income tax and filing false tax returns. A motion to dismiss for selective prosecution was considered.

Within the motions of the case, defendant Black moved to permit testimony of the results of polygraph tests of defendant and a witness at a pretrial hearing. The application was opposed by the government and denied by the Court, stating that nothing in *Daubert v. Merrell Dow Pharaceuticals, Inc.*, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993) would disturb the settled precedent that polygraph evidence is neither reliable nor admissible [in the Second Circuit]. *United States v. Rea*, 958 F.2d 1206 (2nd Cir. 1992).

Motions denied.

[For an abstract of United States v. Rea, see Polygraph (1993) <u>22</u> (2) 198. For the full text of Daubert, see Polygraph (1993) <u>22</u> (3) 270-283.]

Fifth Circuit

David v. Neiman Marcus, et al., Civil Action No. H-93-650 (U.S.D.C., S.D. Houston, 1993)

In this case the United States District Court for the Southern District of Houston Division considered whether the polygraph firm and polygraph examiner could be joined in a suit against the employer where the plaintiff claimed violation of EPPA. The court was moved by the examiner and his firm to be removed from the suit by summary judgment.

The judge considered the language of the Employee Polygraph Protection Act, 29 U.S.C. sec. 2001 *et seq.* and agreed that the defendants were not plaintiff's employer as defined by the statute, noting that the polygraph examiner would have to act directly or indirectly in the interest of an employer in relation to an employee and would have to exert some degree of control over the compliance with the EPPA. Preparation or review of the required notices did not, as a matter of law, amount to control over Neiman-Marcus' compliance with EPPA.

In regard to the libel/slander claim, the court held as a matter of law that the report prepared by the polygraph examiner was not a statement of fact, but only the examiner's opinions regarding the results of the polygraph; opinions that the plaintiff attempted deception to certain questions during the polygraph test. Additionally, the report to Neiman-Marcus' security personnel was privileged, and made in good faith. The Court also noted that disclosure of "information acquired from a polygraph test" to the employer that required the test is specifically sanctioned by 29 U.S.C. sec. 2009(b)(2) of EPPA.

With reference to the common law negligence claim, the Court observed that Federal preemption can occur as a result of the comprehensiveness of federal law or as a result of a conflict or interference created by state law. The Court noted that the EPPA comprehensively and pervasively regulates the circumstances under which polygraph examinations are permissible. The Court held that the provisions of EPPA preempt common law negligence claims.

Chief Judge Norman W. Black granted summary judgment to Defendants AAA Polygraph & Analysis Services and Travis E. Knowlton, 6 January 1994.

Georgia

Brown v. State, 209 Ga.App. 314, 433 S.E.2d 321 (Ga.App. 1993)

Defendant was convicted of child molesting, and he appealed.

Brown appealed from the trial court's admission into evidence of the results of a stipulated polygraph examination. The Court of Appeals of Georgia said there was no error. State v. Chambers, 240 Ga. 76, 239 S.E.2d 324 (1977). Brown, they noted, understood the form (stipulation) and freely signed it. It was not invalid because it was executed without advice of counsel, Brown was not in custody, and there is no legal opinion requiring the examiner to tell the subject that the reliability of polygraph tests is questionable.

The Court also turned a deaf ear to the fact that the child recanted her testimony after trial. They noted that a post-trial declaration by a state's witness that previous testimony was false is not a ground for a new trial.

Affirmed.

Allen v. State, 436 S.E.2d 559 (Ga.App. 1993)

Defendant was convicted of child molestation and he appealed.

A witness who had given conflicting testimony had been asked by the state, prior to trial, to take a polygraph test. On cross-examination, the witness was asked about the state having proposed such a test to resolve his conflicting statements. The Court of Appeals of Georgia said this was an appropriate impeachment of the witness' initial claim during trial that the prosecutor had instructed him to testify a certain way. The appellate court said the trial court properly denied Allen's motion for a mistrial based upon this reference to a polygraph test, a proposal agreed to but never taken. Said the Court, every reference to a polygraph does not require reversal.

Affirmed.

State v. Endres, Superior Court of Fulton County, indictment no. Z-53609, January 28, 1994, Book 3719, pages 433-436.

Defendants filed a motion for a new trial on the basis that evidence was withheld, specifically, the results of a polygraph examination of a state's witness, a test that ended with a probability of deception at .99.

In considering the motion, Judge Don A. Langham observed that "The results of the polygraph examination were not material to the defendants' case. Since the questions propounded to White did not exclude these defendants from the crimes of which they were convicted, any conclusion that White was deceptive did not create a reasonable doubt as to defendants' guilt in this case. If anything, a fair reading of the results demonstrates that White may be protecting others not currently charged."

Motions for new trial denied.

Indiana

Myers v. State, 617 N.E.2d 553 (Ind.App. 4 Dist. 1993)

Defendant was convicted of child molesting and he appealed.

Myers claimed his counsel was ineffective in that he did not request the portion of his police statement referring to a polygraph test be redacted before it was offered as an exhibit. He further contended that because his counsel did not offer evidence to show he passed a test the jury was left to wonder whether Myers later refused to submit to such testimony or whether he failed the test.

The appellate court said that absent a stipulation by the State and defendant, the polygraph evidence was inadmissible. *Conn v. State*, 535 N.E.2d 1176, 1989. The Court said there were other inferences the jury could have drawn, and Myers did not present a clear injury and prejudice.

Affirmed.

Norman Ansley

Montana

State v. Craig, 50 St.Rep. 1533, ____ P.2d ____ (Mont. 1993)

The Supreme Court of Montana considered the voluntariness of a confession of Bobby K. Craig who was accused of sexually assaulting his 11-year-old step-granddaughter while on a family fishing excursion in Great Falls. Defendant was first questioned concerning the allegations on August 7, 1992, and at that time was advised of his Miranda rights. The detective again spoke with the defendant on August 26, 1992 to schedule a polygraph examination. On August 28, 1992 the defendant went to the Great Falls Police Station at the request of the detective, but contended that he did not know at that time he would be subjected to a polygraph examination. Detective Bellusci explained to the defendant that the results of the polygraph were not admissible as evidence. Prior to the interview and polygraph examination. Officer Thiesen, the polygraph examiner, gave defendant a Miranda warning and defendant signed a waiver and consent form. Officer Thiesen conducted a background interview prior to the polygraph examination. The background interview revealed the defendant had six and one-half hours of sleep before taking the polygraph test, although at the time of the court hearing, defendant contended that he had only one hour of sleep. The examination lasted two hours and fifteen minutes. At the conclusion of the polygraph examination, Officer Thiesen told the defendant that the polygraph test indicated he had lied, and then began questioning him. Officer Thiesen then called in Detective Bellusci, who also confronted defendant Craig and told him that he was lying. The officers told the defendant that the machine was proof that he lied. After approximately 15 to 20 minutes of questioning, defendant confessed to the offense.

On September 28, 1992, the Cascade County Attorney's Office filed an information charging defendant with one count of felony sexual assault. On January 15, 1993, defendant filed a motion to suppress his statement given after the polygraph examination. On February 4, 1993, the court entered a written order granting the motion. The State appealed from that order.

Defendant argued that the tactic used by the police when telling him that he was lying because of the results of the polygraph in order to induce a confession was improper. The Supreme Court of Montana noted that when a defendant raises the question of voluntariness, the State must prove by a preponderance of the evidence that the confession was voluntarily obtained. The Court cited *Mayes*, 825 P.2d at 1208 in which a defendant found guilty of incest had confessed after a polygraph interrogation that he had inappropriately touched his daughter. The Supreme Court noted they suppressed that confession because at the time the defendant had been awake for more than 30 hours, had been questioned continually, had been separated from his children, and had been lied to about the evidence against him. In *Mayes*, the polygraph examination indicated the defendant was not telling the truth, and the examiner used that information to obtain a confession. In this case the defendant had slept for six and one-half hours before the test, the police officers did not fabricate evidence, or tell the defendant that they had evidence that did not exist. Even so, said the Court, "we strongly condemn the tactics used by

the officers in this case to coerce defendant's confession. Prior to this charge, defendant had no criminal record and did not have experience with police interrogation. The officers mislead defendant into believing that the results of the test were legitimate and admissible in order to induce a confession." The State maintained the conduct was an acceptable tactic, and that the use of polygraph tests is an effective tool for investigative purposes.

The Court ruled "Regardless of its acceptability among the police, it is not acceptable to this Court for the police to use the results of a polygraph examination to tell a defendant that he lied in order to extract a confession. Nor can we say that the polygraph was used for investigative purposes in this case. Officer Thiesen testified that the purpose of telling defendant that he lied was to elicit a statement."

The Court added that in *State v. Staat* (1991) 811 P.2d 1261, they said they have "long abhorred the use of lie detector evidence." And they further said, "We restate for the bench and bar of Montana that: In light of the lack of trustworthiness of the results of polygraph tests, we conclude that the application of the statute [sec. 37-62-302, MCA] should not be limited to those court proceedings in which the rules of evidence govern, but should extend to every proceeding in Montana courts of law ..." "Polygraph evidence shall not be allowed in any proceeding in a court of law in Montana. The only acceptable lie detection method in Montana court proceedings reside with the court in bench trials, the jury in jury trials, and the skill of counsel in cross-examination in all trials."

The Court held that the "District Court did not err in suppressing the statement made by defendant following a polygraph examination where the police officers used the results of the polygraph to tell the defendant he had lied so as to elicit a statement or confession."

Justice Nelson dissented. He noted that a confession is to be suppressed only if it is determined that it was not given voluntarily. He argued, "even assuming that the examiner's comment was improper, a conclusion with which I do not agree, the balance of factors here indicate that the defendant's confession was voluntarily given." He went on at some length to examine the factors in this light. He observed that up until now they have held to the rule that voluntary statements made by the defendant following a polygraph examination may be admitted into evidence even though the result of the exam itself would be inadmissible." Justice Nelson, Justice Gray joining in the dissent, said he could not agree, and that he would reverse.

North Carolina

State v. Willis, 109 N.C.App. 184, 426 S.E.2d 471 (N.C.App. 1993)

Defendant was convicted of one count of second-degree murder, and he appealed. Among appeals, defendant claimed the court erred in admitting the testimony of a polygraph examiner concerning his interview with the defendant. The examiner described the interview to the jury,

Norman Ansley

including the three questions he asked the defendant and the defendant's "no" answers to those questions; but did so without mentioning the polygraph test.

The Court of Appeals, noting that polygraph evidence is inadmissible in North Carolina, and also noting that not every reference to a polygraph test will necessarily result in prejudicial error; was of the opinion that this was an obvious attempt to get before the jury the results of a test. The examiner may also have conveyed or stated his doubt as to the truthfulness of the defendant. Whether he did or not is not clear. But the fact that he was an examiner, the nature of the questions and brief answers apparently conveyed the impression of a test, and that was too much akin to presenting the fact that a test took place. Defendant did not confess during the examination, and the appellate court said "the examiner's sole basis for his testimony was his interpretation of the polygraph test results, evidence which the Supreme Court [of North Carolina] has held to be inherently unreliable. The examiner's opinion regarding the truth or falsity of defendant's answers cannot be separated from the test results themselves."

The appellate court said that the defendant was convicted, at least in part, on evidence our Supreme Court has held to be inherently unreliable. A new trial was ordered.

Ohio

State v. Kniep, 87 Ohio App.3rd 681, 622 N.E.2d 1138 (Ohio App. 9 Dist. 1993)

Defendant was convicted of two counts of child endangerment, and he appealed.

The appellate court observed that ordinarily, the refusal of a defendant to submit to a polygraph test is not admissible by the prosecution as evidence of guilt. However, in this case, Kniep's refusal was elicited by his own counsel, and the rule of "invited error" prohibits the party who invited the error from asserting the error on appeal. This rule has been applied by the courts to testimony concerning polygraph examinations. *State v. Woodruff*, 10 Ohio App.3rd 326, 1983, 10 OBR 532, 462 N.E.2d 457 and *State v. Hill*, 37 Ohio App.3d 72, 523 N.E.2d 894.

Affirmed.

Pennsylvania

Commonwealth v. Stanley, 629 A.2d (Pa.Super. 1993)

Defendant was convicted of driving while under the influence of alcohol, and she appealed.

The Superior Court of Pennsylvania noted that results of lie detector tests are inadmissible at trial. *Commonwealth v. Camm*, 277 A.2d 325, 1971. However, mere mention of a test does not constitute reversible error. *Commonwealth v. Miller*, 439 A.2d 1167, 1982. In this case it was clear from Officer Hartle's testimony that a test was administered to the defendant, a fact deliberately elicited by the prosecution. The jury was told they could consider the fact that the test was used by the officer in deciding whether to make an arrest. The results of the test were not admitted, but the jury was led to believe Stanley failed. This was error, said the appellate court, but other evidence supporting the conviction was substantial, so the admission of the mention of the polygraph test was harmless.

Judgment of sentence affirmed. Judge Hester, dissenting, said he disagreed the error was harmless, and he thought it was also an error to admit and hold harmless the results of a preliminary breath test.

Texas

Moon v. State, 856 S.W.2d 276 (Tex.App. Ft. Worth 1993)

Defendants were convicted of aggravated sexual assault of children and they appealed.

Appellants alleged the trial court erred when it would not let them present testimony about polygraph results, thus denying them due process of the law. They argued that plethysmograph evidence was admitted, polygraph evidence was not, and said they were quite similar in nature.

The appellate court ignored the due process argument and said polygraph results are inadmissible for any purpose in criminal law in Texas. *Taylor v. State*, 630 S.W.2d 824, 1982. The testimony about the plethysmograph, the Court said, was admissible.

Affirmed.

* * * * * *

PEOPLE ARE ENTITLED TO THE TRUTH*

By

Erle Stanley Gardner

I want to make a brief explanation of why I am here. I have given up most of my public speaking of late, but I am here because C.B. Hanscom asked me to come here, and Chick Hanscom has, from time to time over the years, made all sorts of personal sacrifices in order to advance the administration of justice and help my associates and myself in the Court of Last Resort determine what is true and what is not true. It is, therefore, my pleasure to reciprocate in any way that I can. Having said why I am here, I want to say a word about what I am here for.

This organization has done me the honor of making me an honorary life member, but I am here not as a member of the organization, not as one who has any axe to grind in protecting my income, but I am here as a member of the public. The public is entitled to the truth. I don't care how many enemies scientific interrogation with the aid of the polygraph may develop in the course of time, or how many you have now. But if you people can get together on a code of ethics, if you can quit fighting among yourselves, and get down to the business of serving the public, the general public isn't going to let you down. You have a lot of housecleaning to do. You have a lot of public relations work. The public has to be made aware of what you are doing and why you are doing it, and how you are doing it. And, on the other hand, if the public learns you are doing something that is very essential in the administration of justice, the general public will want to see that you are protected.

I first became interested in the polygraph technique of examination some twenty years ago when I became acquainted with the late Leonarde Keeler. I have used efficient polygraph examination since that time on many occasions. I know something of what it can do. And, as a member of the general public, I know that we can't let you people down.

^{*}This is an address to the 1967 APA Seminar by the late Erle Stanley Gardner (July 17, 1889 - March 11, 1970). The address was printed in the *APA Newsletter* (1967 Nov-Dec) $\underline{1}$ (7) 5-12 by the Editor, the late C.B. "Chick" Hanscom. Mr. Gardner was an Honorary Member of the APA.

Mr. Gardner established "The Court of Last Resort" and no one is allowed to use that copyrighted name, but his work is carried on by the APA Case Review Committee. Alex Gregory was the principal examiner for the court, but Keeler, Reid, Hanscom and others conducted examinations for Gardner. Our Case Review Committee was originally funded by a gift from Mrs. Erle Stanley Gardner.

This speech is reproduced, some 36 years later, because his remarks on ethics remains timely. (Ed.)

People Are Entitled To the Truth

It is unfortunate that when the polygraph first began to be used in connection with scientific examination, some newspaperman dubbed it a "lie detector." This has given a whole series of false connotations to the use of the polygraph in scientific interrogation, and I think the time has come to try to get away from the words "lie detector test." As long as scientific interrogation is used to detect guilt, as long as it is used to break down the denials of guilty persons that they have committed a crime, just so long will the whole profession be in danger of sweeping rulings by the United States Supreme Court which will outlaw its use.

I don't regard the polygraph as a lie detector. I regard it as a truth establisher. I have used scientific interrogation with the aid of the polygraph over some twenty years to establish innocence. We can't use it in court but when a polygraph examination has shown my associates and myself that a man who is in prison serving a life sentence for a murder is actually innocent of that murder, we can go to work with the assurance that we aren't wasting our time. We have handled many, many cases of this sort, and at the present time I can recall only one man who is still in prison and who hasn't been liberated. Incidentally, that man was not given a polygraph examination.

As many of you know, it is at times difficult if not impossible to give a scientific interrogation with the aid of a polygraph to a man who has been convicted of crime and is incarcerated in prison. It is necessary to get permission from the authorities and, generally, the authorities refuse that permission. However, quite frequently when some warden has confidence in the integrity of the examiners and is himself in some doubt as to the guilt of the inmate, strings can be pulled so that a satisfactory examination can be given.

I want to emphasize that, in my opinion, the main use of the polygraph in criminal work is for the purpose of establishing innocence, rather than detecting some unfortunate in a lie. We'll take the case of Sam Sheppard, for instance. In that case, and I don't know where it came from, a well-defined rumor spread over the country that the two brothers of Dr. Sam Sheppard, who themselves were doctors, came to the Sheppard house before the police arrived; that they had been busily engaged in removing fingerprints from the furniture, although why anyone should seek to remove the fingerprints of Sam Sheppard from the house in which he lived is more than I know. -- The rumor also had it that they dosed Dr. Sam Sheppard with narcotics, ostensibly to ease pain but actually so that he couldn't answer questions, rushed him to a hospital, and then hurriedly engaged a lawyer. As is inevitable with rumors of this sort, they grew in volume and magnitude as they were repeated, until there was a general impression on the part of the public that Dr. Sam Sheppard was guilty and the two brothers were accessories after the fact.

After some considerable time, my associates and I, who had been under great pressure to investigate the Sam Sheppard Case, stated that if we could give all the members of the family a polygraph test, and if we were satisfied after such a test that there had been a miscarriage of justice, we would go all out to see that the case was reopened. The two brothers eagerly accepted the opportunity to establish their good faith. We realized that no matter what happened we would be under considerable criticism so we arranged to get a team of scientific interrogators

whose integrity couldn't be questioned and whose skill couldn't be minimized. Alex Lee Gregory was a member of the Court of Last Resorts. He is generally conceded to be a thoroughly competent examiner. John Reid is so well known that everyone in the profession respects his high professional standing. C.B. Hanscom is one of the leaders in the profession, both in ethics and in skill. Dr. LeMoyne Snyder, who is both a doctor of medicine and a doctor of law, has studied the polygraph in connection with his career as a Consulting Criminologist and is a leader in the field of forensic medicine. He is the author of the book, *Homicide Investigation*, which is pretty much of a bible for police officers everywhere. We arranged to have these four men test the two brothers of Dr. Sam Sheppard, and the wives of these two brothers. We particularly asked Dr. LeMoyne Snyder to see that there was no chance that any medication had been used which could affect the results. We asked the polygraph examiners to pull no punches. We asked them only one thing in the interests of justice and in the interests of their profession. We asked them to be almighty sure that they were right when they made their report. Those were searching, sweeping examinations. When they were finished, the examiners gave it as their opinion that the brothers and the brother's wives were telling the truth; that they had not at any time tried to interfere with the investigation; that they had not concealed any evidence; that they had not at any time heard Dr. Sam Sheppard state he was guilty of the crime; and that their treatment of Dr. Sheppard was in the interests of sound medication and not for the purpose of obstructing justice. Those results were publicized. As a result, those ugly rumors which had been going around and magnifying themselves on each round suddenly died on the vine. The members of the Sheppard family were once more able to hold up their heads in society. To my mind, this is illustrative of the function of the polygraph examination.

Our courts have to administer law. Virtually every contested case that is tried, however, depends upon applying the law to a set of facts, and the facts have to be determined by the court on conflicting evidence. Quite frequently, the honest man, who is a little inarticulate, suffering a little from stage fright and embarrassment when called upon to face a crowded courtroom, with lawyers barking questions at him on cross-examination and the court cautioning him to refrain from giving any of his own conclusions but only cold, hard facts, comes out second best when pitted against a glib, talkative liar with an adroit, facile mind, who is something of an exhibitionist and who is stimulated rather than embarrassed by the audience in the courtroom.

I practiced trial law for twenty-five years. I have had these things happen in my cases. It is not only embarrassing to a lawyer who is representing a client, but it is an awkward situation for one who is an officer of the court and who sees justice falling into a booby trap. -- Because, in the long run, the courts themselves are dependent upon public opinion for the respect which the public must have in order to enable the courts to function. Make no mistake about it, in our civilization every component part which renders a public service is responsible to the public. Whenever scientific interrogation can convince the public that it can do a better job of determining truth than can be done by offhand rule of thumb appraisal, the public is going to insist that the modern methods be adopted. On the other hand, as long as the profession masquerades behind the facade of delving into people's minds in order to bring out indications
People Are Entitled To the Truth

of guilt, there is going to be a general feeling on the part of the public that privacy is being invaded. And this brings us to one thing which I think is highly important.

When I first became acquainted with the polygraph some twenty years ago the polygraph examiners were working with a profession which was in its infancy. They were taking the easy way and the short cuts. When they wanted to find an individual's pattern of deception as shown on the graph, they had no hesitancy in asking him not only personally embarrassing questions but, quite frequently, questions relating to his sex life. This gave the individual polygraph examiner a find opportunity to determine the reactions of emotional disturbance on the part of the subject, but at the same time it was inevitably laying a foundation which would undermine the profession itself.

I protested about this on many occasions and had my protestations overruled with one excuse after another. But I find now that the chickens are coming home to roost. These personally embarrassing questions, and the threat of asking personally embarrassing questions, has placed the whole profession in the shadow of public disapproval. If polygraph examination is to survive and grow, the examiners must be properly qualified individuals with an earning capacity which is the equivalent of men in affiliated professions. On the other hand, if the polygraph examiner can't be assured of an income which enables him to live in the style to which his talents and abilities entitle him, in the proper stratum of society in which he wants to circulate, he will get into something else if he is competent of making a living in some other field. If that happens, gradually the professions will be turned over to the incompetents, the men who are prone to minimize the ethics of the profession and the enemies of scientific interrogation will be able to have their way.

But if the members devote their attention to getting a constant higher type of examiner in the profession, and if the members unite as a cohesive unit to see that the use of the profession to society is constantly enhanced, society will, in turn, see that the members are properly compensated, and with proper compensation bigger caliber men will be attracted to the field and the men of lesser caliber will gradually be weeded out. In order to do this it means that the members of the profession have got to do a lot of housecleaning.

What is a competent, scientific interrogation? How many factors should be taken into consideration. What technique should be used? What instruments should be required? What should be the technique of using those instruments? The fundamentals of all this should be determined by a code of ethics on the part of this organization, and the people who cannot, will not, or do not adhere to those basic requirements should be given to understand the disservice they are doing to the profession.

Then, just as soon as possible, the various states should be encouraged to pass laws licensing practitioners of scientific interrogation just as they license doctors, dentists, realtors, and, in many instances, private detectives. The various legislative bodies must be educated in the field of scientific interrogation, and all this is a part of the public relations which the

profession must assume. If, for instance, this association revokes the membership of some man who is a detriment to the profession itself, the general public isn't going to know anything about it. The blank space on the wall of this man's office where the membership certificate was formerly hung will be covered by a lurid calendar and the man will go on his way, making less income than a good man would be entitled to, doing a thousand times more damage to the profession than should be the case. And when financial temptation comes his way he will be highly prone to stultify his professional ethics still further in order to obtain financial advantage.

As I see it, there is only one way that the integrity of the various scientific examiners can be assured and that is to have a standard of qualifications, a standard of ethics, and the cooperation of state legislatures so that the whole profession of scientific interrogation can be supervised by a sympathetic board composed of members who know what they are doing and what can be done. Then when a person fails to conform to the standards of the profession, his license can be revoked and he can be forced to get into some other line of business. All of this is going to take a lot of public relations work and a lot of education. But it isn't going to be too difficult, once the public comes to understand the facts. As I see it, one of the big requirements is to impress upon the public the fact that scientific interrogation establishes the truth, and that the innocent citizen who is wrongfully accused of crime has virtually no other means of establishing his innocence.

I think that trying to get the results of scientific interrogation admitted in court presents difficulties. On the other hand, I feel that with proper encouragement a growing number of trial judges will take cases where they are in doubt and ask some of the parties if they will be willing to submit to a polygraph examination. I know of at least one judge who did this in at least one case where he was in doubt. I happened to see the examination through a one-way mirror from an observation room. I understand this judge has done this on several occasions.

A young girl, who had previously been in trouble, was convicted of a crime. She vigorously protested her innocence. The judge finally began to have some doubts. He had heard of the work of C.B. Hanscom. He said to the girl's attorney, "If you will take her to Minneapolis, and if C.B. Hanscom certifies that she is telling the truth after a complete examination, I will grant a new trial."

I saw that examination. The girl was telling the truth. Hanscom so reported. The judge granted a new trial. The girl was acquitted. Some weeks later the true culprit was apprehended and confessed.

If judges gradually can learn that they have an auxiliary means of determining truth in their possession, it is quite possible that from time to time conscientious judges will want to avail themselves of the assistance of a scientific interrogator. But in my opinion, nothing constructive is going to be accomplished as long as the profession uses sex questions as the means of determining an emotional response. It is the easy way, but it is the dangerous and deadly, destructive way as far as the profession is concerned.

And above all, I think it is time to get away from the word, lie detector, and the idea of lie detection as far as possible, and rely upon the words, truth detector. I have seen scientific polygraph examinations save many lives. I remember one memorable case when a warden telephoned long distance to tell us, entirely off the record, that during the next week he was going to have to execute a man who might well be innocent. We went to that state. We found a prisoner who was all but hysterical with fear. He couldn't eat. He couldn't sleep. His execution was four days away. The man was highly emotional. After the crime had been committed he had made the mistake of resorting to flight because he though he might be suspected of another matter. The newspapers had literally crucified him before trial. The actual objective evidence in the case, in our opinion, did more to indicate the man's innocence than his guilt. Despite the man's nervous conditions, Alex Gregory was able to establish sufficient rapport so that he gave a good polygraph test. We went to the governor of the state. The governor said, "If you people are sufficiently interested in the administration of justice to donate your valuable time in the interests of penniless unfortunates, my office will give you every opportunity to determine the facts. I'll grant this man a ninety-day reprieve so you can go to work." Within that ninety days we uncovered sufficient evidence so the governor commuted the sentence to life imprisonment and, a year or so later, I had the satisfaction of being called on the long-distance telephone by a representative of the governor's office, who said, "We have been investigating the facts you people uncovered and the conclusions you reached and our office is now not only satisfied of this man's innocence, but we think we know the identity of the real murderer. I just want you to know that tomorrow morning the governor is granting an unconditional pardon."

That is only one of dozens of similar cases where scientific interrogation has been a means of reaching the truth, and the truth has been such as to establish innocence rather than guilt. I have also seen the other side of the coin where a glib, personable, young fellow, who had persuaded the prison chaplain that he was innocent and secured the backing of several officials in the prison, told a convincing story to establish his innocence of a murder for which he was to be executed. A careful examination of the evidence showed that some of the expert evidence had been made to sound thoroughly convincing by the use of technical terms which sounded convincing in the absence of an intelligent cross-examination, and the attorney representing the defendant had evidently not been sufficiently conversant with the technical aspects of the case to shoot the expert testimony full of holes. Finally, the authorities gave us permission to let Alex Gregory conduct a polygraph examination. The young man, who was so versatile and personable in his dealing with people, so magnetic and convincing, turned out to be an exceptionally good subject on the polygraph, and the polygraph chart inexorably indicated his guilt. When Gregory announced the result of his examination, the young man shrugged his shoulders, said, "Well, you can't blame a guy for trying," and went to his death in the electric chair.

But in our experience using the polygraph to detect truth and establish innocence I came to realize, as a member of the general public, that scientific interrogation is too important a part of our civilization to be either plowed under, on the one hand, or permitted to die on the vine, on the other hand.

Erle Stanley Gardner

You people who have spent years in the field of scientific interrogation can be proud of yourselves. I've had an opportunity to see some of the work of people who are here. I've had an opportunity to know a great deal about the work of others. I don't know of any profession anywhere where people are more skillful in developing a rapport with a subject, or have become more skillful in diagnosing psychological reactions. You people have to do more than the psychiatrists in many ways, because when you find some sign of emotional disturbance present you have to find out what causes that emotional disturbance.

Almost any student can look at the disturbance indication on a chart and say that indicates guilt. But things aren't that easy for the real expert. I remember one case where a man had been identified as having perpetrated a sex crime. He insisted on having a polygraph test and every time the examiner touched on questions concerning this crime the graph showed that the subject was showing symptoms of emotional disturbance indicative of guilt. But somehow the man's manner, his demeanor, everything about him caused the examiner to keep probing until finally it came out in the open. -- The man had been mixed up in a somewhat similar sex crime years ago and had never been apprehended, but whenever the examiner asked questions about a sex crime, the memory caused symptoms of emotional disturbance. Having gotten that off his chest, the subject ran a perfectly clear test. The examiner reported that he was telling the truth. Despite the fact that the police were furious with the examiner, he stuck to his guns. It was well he did, because a few months later the real criminal was apprehended and confessed.

This Association has got to face the facts. It's got to rid itself of petty individual jealousies, personal frictions, cliques and claques. It's got to present a common, unbroken front to a common enemy, and that enemy is general ignorance.

If you are going to have the confidence of the public you have got to be worthy of that confidence. You can't use techniques which rob the subject of his human dignity. You can't go into sexual habits simply as a matter of curiosity or as an easy method of securing a pattern of emotional reactions. In cases where sex is not involved as a part of the inquiry, leave it alone.

Develop techniques, new techniques, if necessary, which give you a pattern sufficient to enable a skillful examiner to reach conclusions without destroying the human dignity of the subject. I think there is a lot of room for new patterns of interrogation and perhaps for new means of registering emotions. The polygraph is a wonderful machine but that doesn't mean it can't be improved upon.

We need research, constant research in the field of interrogation patterns, in the field of mechanical improvement, in the field of better understanding basic human nature. And we need more understanding on the part of the public and more cooperation from the public.

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LEGAL ARTICLES ON THE EMPLOYEE POLYGRAPH PROTECTION ACT OF 1988

By

Norman Ansley

The following articles have been selected for those who need the legal opinion of scholars on the interpretation of the EPPA.

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Norman Ansley

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ABSTRACT - VALIDITY WITH CHILDREN

Abrams, Stanley (1975). The validity of the polygraph technique with children. Journal of Police Science and Administration, $\underline{3}(3)$ 310-311.

Procedure

The object of the research was to determine what difference in accuracy there may be in testing children in the age range nine to thirteen, and grades four through eight. The experiment called for eight children to be tested from each grade four through eight, but only six were tested from the sixth grade and seven from the seventh; total 37. The children were distributed by chance, and therefore unequally, into experimental and control gruops. The experimental subjects were given a package of cherry-flavored Life Savers in a red wrapper, and subjected to three, known-solution (Type A) peak of tension tests in which three lists were used, and two charts were obtained for each list from each subject. Chance for each list of five items was 20%. In the first list they were asked if they were given: pencils, gum, Life Savers, money, licorice. In the second list they were asked if they were Life Savers, was the wrapper: green, blue, red, yellow, white. In the third list they were asked if they were Life Savers, was the flavor: orange, peppermint, cherry, lemon, grape. Each subject, experimental and control knew the questions and items, and order of presentation before the polygraph tests were conducted.

Each chart was evaluated by the examiner and a blind evaluator. The latter did not see the examinations conducted.

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Each chart was evaluated by the examiner and a blind evaluator. The latter did not see the examinations conducted.

The instrument is not described, but referred to as a polygraph, and it probably was a standard field unit with cardiovascular (pulse and vascular volume), electrodermal (probably skin resistance), and respiratory recordings.

Results

The overall accuracy of decisions of the examiner and evaluator for all grades and ages was 77%. The accuracy by grade was:

| <u>Subject</u> | <u>Examiner</u> | <u>Evaluator</u> | <u>Average</u> |
|----------------|-----------------|------------------|----------------|
| Grade 4 | 63% | 75% | 69% |
| Grade 5 | 63% | 50% | 57% |
| Grade 6 | 83% | 83% | 83% |
| Grade 7 | 100% | 71% | 96% |
| Grade 8 | 88% | 100% | 94% |

The author concluded that accurate detection of deception with children begins at the sixth grade, or 11-year-olds of average intelligence. The author notes that while accurate test results may be obtained at an earlier age, the probability of error increases.

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