Polygraph

VOLUME 13 SEPTEMBER 1984 NUMBER 3

Contents

PUBLISHED QUARTERLY

P.O. Box 74, Linthicum Heights, Maryland 21090

STATEMENT OF
CHAIRMAN BILL NICHOLS,
INVESTIGATIONS SUBCOMMITTEE
HOUSE ARMED SERVICES COMMITTEE
ON
H.R. 4681

The subcommittee meets today (6 Sep 84) to consider H.R. 4681, a bill relating to the administration of polygraph examination and prepublication review requirements by Federal agencies. This bill was reported by the Committee on Post Office and Civil Service on August 6 and was sequentially referred to the Committee on Armed Services for consideration of those portions of the bill falling within the jurisdiction of the committee. That referral requires our committee to report the bill by September 21. H.R. 4681 has also been referred to the Committee on the Judiciary and to the Permanent Select Committee on Intelligence.

H.R. 4681, as reported, would prohibit Federal agencies from administering polygraph examinations to employees, or applicants for employment, except as part of a specific investigation into felonious criminal conduct. The bill would also prohibit agencies from requiring employees, and applicants for employment, to enter into an agreement to submit their writings to prepublication review. The bill would exempt the Central Intelligence Agency and the National Security Agency from those prohibitions.

According to the report of the Committee on Post Office and Civil Service, the legislation was developed in reaction to two initiatives proposed by the Executive Branch: National Security Decision Directive 84 (NSDD-84) issued on March 11, 1983, and (2) the Department of Defense proposal to revise DOD Direction 5210.48 to expand the use of polygraph examinations of personnel with access to highly secret programs and information.

The Committee on Armed Services requested sequential referral of H.R. 4681 because of its concern over the severe limitation it would impose on the use of polygraph examinations in the Department of Defense. We recognize that the polygraph is an imperfect instrument. But we also recognize that, on the basis of extensive experience in Central Intelligence Agency, National Security Agency and the Department of Defense, the polygraph examination has proven a valuable investigative aid in personnel security investigations. Since 1950, CIA has used the polygraph in screening applicants for employment with the agency. And NSA has administered polygraph examinations to all its applicants for employment since 1953. Both agencies have found that the polygraph has demonstrated high utility in identifying applicants who were clearly unsuitable for employment.

Because of its responsibilities in the research, development and procurement of weapons systems, war-planning and intelligence programs, the Department of Defense possesses much information which requires protection in the interest of national security. Several recent prosecutions have demonstrated that this highly classified data has been targeted by the Soviets. There is no reason to believe that efforts of our adversaries to obtain this extremely valuable information are likely to be reduced in the

future. In order to deal with that threat, the Department of Defense believes it should have the authority to take every reasonable precaution to protect that information. Among the precautions it believes necessary is an adequate program to determine the reliability of the personnel who are entrusted with such information. The Department of Defense believes that polygraph examinations of those people can deter, or detect, efforts to compromise highly classified national defense information. The Department believes that the prohibition of polygraphs contained in H.R. 4681 would be detrimental to its personnel security program. Accordingly, it has requested that the bill be amended to permit limited use of the polygraph as proposed in its revision of DOD Directive 5210.48.

We have invited witnesses from the Department of Defense, the Central Intelligence Agency and the National Security Agency to testify. Those witnesses will relate the experience of their agencies in the use of the polygraph exmaination for personnel security purposes.

Our first witness will be General Richard G. Stilwell, USA(Ret.), Deputy Under Secretary of Defense for Policy. General Stilwell, we welcome you and you may proceed with your prepared statement.

STATEMENT OF
GENERAL RICHARD G. STILWELL, USA (RET.)
DEPUTY UNDER SECRETARY OF DEFENSE FOR POLICY
BEFORE THE COMMITTEE ON ARMED SERVICES
U.S. HOUSE OF REPRESENTATIVES
REGARDING H.R. 4681
SEPTEMBER 6, 1984

Mr. Chairman, I appreciate the opportunity to appear before the Committee today to present the Department's views concerning proposed bill H.R. 4681 which addresses the use of the polygraph within the Federal Government and the institution of pre-publication review requirements among Federal employees.

In February 1984, I appeared before the Subcommittee on Civil Service of the House Committee on Post Office and Civil Service concerning this bill. The concerns I expressed in February continue to apply. Today, I will reiterate those concerns and, with respect to use of the polygraph, endeavor to clarify for you the nature, scope and purpose of changes that the Department is considering in this area -- a copy of our draft directive and regulation has been provided to your staff.

Section 2 of the bill proposes amendments to Chapter 73 of Title 5, U.S. Code. As we read Section 7362, it would prohibit use of the polygraph with regard to the civilian employees of the Department of Defense for any purpose other than a criminal investigation, except insofar as it may be used at the National Security Agency, which is exempted from the bill altogether, and except for polygraph examinations requested by the employee.

Enactment of this legislation would prevent the Department from utilizing the polygraph in ways it is currently successfully being employed,

future. In order to deal with that threat, the Department of Defense believes it should have the authority to take every reasonable precaution to protect that information. Among the precautions it believes necessary is an adequate program to determine the reliability of the personnel who are entrusted with such information. The Department of Defense believes that polygraph examinations of those people can deter, or detect, efforts to compromise highly classified national defense information. The Department believes that the prohibition of polygraphs contained in H.R. 4681 would be detrimental to its personnel security program. Accordingly, it has requested that the bill be amended to permit limited use of the polygraph as proposed in its revision of DOD Directive 5210.48.

We have invited witnesses from the Department of Defense, the Central Intelligence Agency and the National Security Agency to testify. Those witnesses will relate the experience of their agencies in the use of the polygraph exmaination for personnel security purposes.

Our first witness will be General Richard G. Stilwell, USA(Ret.), Deputy Under Secretary of Defense for Policy. General Stilwell, we welcome you and you may proceed with your prepared statement.

STATEMENT OF
GENERAL RICHARD G. STILWELL, USA (RET.)
DEPUTY UNDER SECRETARY OF DEFENSE FOR POLICY
BEFORE THE COMMITTEE ON ARMED SERVICES
U.S. HOUSE OF REPRESENTATIVES
REGARDING H.R. 4681
SEPTEMBER 6, 1984

Mr. Chairman, I appreciate the opportunity to appear before the Committee today to present the Department's views concerning proposed bill H.R. 4681 which addresses the use of the polygraph within the Federal Government and the institution of pre-publication review requirements among Federal employees.

In February 1984, I appeared before the Subcommittee on Civil Service of the House Committee on Post Office and Civil Service concerning this bill. The concerns I expressed in February continue to apply. Today, I will reiterate those concerns and, with respect to use of the polygraph, endeavor to clarify for you the nature, scope and purpose of changes that the Department is considering in this area -- a copy of our draft directive and regulation has been provided to your staff.

Section 2 of the bill proposes amendments to Chapter 73 of Title 5, U.S. Code. As we read Section 7362, it would prohibit use of the polygraph with regard to the civilian employees of the Department of Defense for any purpose other than a criminal investigation, except insofar as it may be used at the National Security Agency, which is exempted from the bill altogether, and except for polygraph examinations requested by the employee.

Enactment of this legislation would prevent the Department from utilizing the polygraph in ways it is currently successfully being employed,

as well as preclude its use in ways being contemplated for the future. To be more specific, the polygraph is currently used in DOD for several purposes not recognized by the bill: First, to resolve derogatory information developed in personnel security field investigations that cannot be resolved in any other way; Second, to ensure that intelligence agents, acting on behalf of DOD intelligence components, are bona fide; Third, for exculpatory purposes; and Fourth, for counterintelligence investigations (where evidence of criminal conduct may not be present). Moreover, the bill would preclude the Department of Defense from implementing the limited sort of program that Defense has had under consideration for the last two years. Before I describe for you the key features of this contemplated program, let me briefly highlight the events that led to its development.

Traditionally, the key to determining the trustworthiness and suitability of individuals for access to classified information has been the personnel security field investigation, with the nature and extent of this investigation depending upon the level of sensitivity of the information involved. Essentially, such investigation would include -- checks of local and national law enforcement agencies -- employment -- credit references -- and interviews with friends, neighbors, co-workers, and other persons who are in a position to comment on the individual's reliability and trustworthiness.

However, commencing in the mid-1970's, a number of events took place which seriously eroded DOD personnel security field investigations. These events included: A congressionally directed reduction in DOD investigative resources -- The adverse impact of the Privacy Act of 1974 on the willingness of persons or organizations to provide relevant information -- Limitations placed on accessibility of school records -- and, Issuance of Justice Department regulations that caused many local jurisdictions to severely limit access to law enforcement records.

The consequences of these events were: A serious degradation in our ability to conduct personnel security investigations -- Less relevant information being available -- and, A significantly less valid investigative product.

This situation -- while in itself a matter of serious concern -- was further complicated by another, more threatening turn of events -- the incidence of espionage appeared to be increasing. As primary examples, consdier the cases of Boyce & Lee, Lt. Cook, CWO Helmich and William Holden Bell, all were uncovered in the period between the late 1970s and end of 1983. These cases involved the compromise to our adversaries of information ranging from the most secret research and development material to top secret compartmented intelligence information.

In light of this situation, in 1982 I appointed a select panel, composed of senior Defense officials, who were charged with reviewing the Department's personnel security program from top to bottom and developing recommendations for resolution of the problem.

Among the general recommendations made by the panel were recommendations for tightening controls on the issuance of clearances, improved adjudication of security cases, and reinstitution of the regular reinvesti-

gation of cleared individuals. The Department has taken action in all these areas to improve security.

Of particular importance, the panel recommended a counterintelligence-scope polygraph examination to assist in determining the initial and continued eligibility of a limited number of individuals in positions that require access to extremely sensitive classified information.

It was in this context then, that the Department developed a proposed revision of its polygraph policy -- to supplement our investigative program -- to deter and detect espionage. After two complete coordinations with the DOD components, hearings before a number of House and Senate committees and subscommittees, as well as informal, detailed discussions with the members and staffs of House and Senate committees and subcommittees that have expressed an interest in this area, this proposal has now been refined considerably.

The primary change to existing policy would permit a limited polygraph examination, comprised solely of questions designed to determine whether an individual is a spy for a hostile intelligence service, prior to granting access to the most sensitive classified information held by the Department. Under this concept, heads of Defense components, with the approval of my office, could, if they saw fit, establish this sort of limited examination -- excluding any questions of a personal nature -- as a condition of access to specifically designated classified information protected within so-called "Special Access Programs," established under the authority of Executive Order 12356. I have attached at enclosure 1 a list of the questions which may be asked during an examination.

There has been some concern expressed that the Department intends to require polygraph examinations of all personnel cleared for sensitive compartmented information, referred to as SCI. I want to emphasize that this is simply not the case. Rather, the proposed use would be limited to specifically designated classified information within special access programs. While some of the positions being considered for polygraph examination would undoubtedly also require access to SCI, the point is that SCI access, per se, would not be the qualifying criterion -- rather the position would have to require access to information designated by the component held as requiring special protection greater than that otherwise required by the special access program concerned.

Under this proposal, no action could be taken on the basis of his or her reaction as reflected on the polygraph charts, unless additional investigation produced derogatory information concerning the individual involved which in and of itself would support such action. Any exception to this policy would have to be approved by the Secretary of Defense; Deputy Secretary of Defense; Secretary of one of the Military Departments; Director, National Security Agency; or myself. Furthermore, refusals to take such examinations could not be the basis for firing an employee. Any current employee, other than employees of the National Security Agency, who refused to take such an examination as a condition of obtaining access would either remain in his job, or would be placed in a position of equal grade or pay within DOD.

There has been considerable interest in the number of DOD personnel

who would be effected by this change. Accordingly, I believe it would be worthwhile to take a few moments to attempt to clarify this point.

We have reached an informal agreement with three other Congressional Committees who have reviewed this proposed program to conduct a pilot test of this new policy, limited in its first year to no more than 3,500 examinations. After this test period, an assessment of the program, including its further expansion, would be considered in consultation with the Congress. In any case, the Department's capabilities to conduct more such examinations would, as a practical matter, be limited to roughly these limits for the next two to three years, since any greater expansion would necessitate additional examiners who must be trained and equipped.

We would hope this Committee would similarly support this approach. Language which authorizes such a test program is, in fact, contained in the Senate version of the FY 85 Defense Authorization Bill, which is, of course, in conference. This is the concept we endorse; we believe it provides a prudent way to implement this proposed policy change.

As I mentioned, only persons with access to specifically designated classified information protected within special accesss programs could be subject to a polygraph examination under this policy. But since these categories of especially sensitive information have not yet been identified, a precise estimate of how many persons might ultimately be affected is not possible at this time. Suffice it to say, the Department does not anticipate more than 10,000 such examinations being administered in any given year, even if this program were fully implemented. You must understand that we are not talking about polygraphs for all persons with some form of special access, but rather those with access to specifically designated information within special access programs. Thus we are not talking about everyone with access to sensitive compartmented information or SCI, but rather those with access to specifically designated, especially sensitive, information within the category of SCI. This determination will be left to my office based upon the justifications provided by the heads of DOD components who wish to institute a limited polygraph as a condition of access to such data.

A second proposed change to existing policy would authorize use of the polygraph to assist in determining an individual's eligibility for employment, assignment or detail to a position within the Defense Intelligence Agency that is designated as a critical intelligence position by the Director, DIA.

The exclusion of the National Security Agency and the Central Intelligence Agency from the provisions of H.R. 4681 indicates that there is strong consensus that the extreme sensitivity of the information developed by these agencies warrants the employment of particularly stringent security measures, to include use of the polygraph, to properly safeguard this information. Clearly, there are positions within the Defense Intelligence Agency which require access to information that is equally as sensitive as that found in NSA or CIA. Moreover, there are many positions within DIA that, in fact, require access to highly classified NSA or CIA developed information.

A final, though not particularly significant, change to current

policy would authorize use of the polygraph to assist in determining the eligibility of individuals for interim access to very sensitive classified intelligence sources and methods information. This procedure would be used only with the consent of the employee to cover those rare and unusual circumstances wherein it might be necessary to utilize an individual's services before the traditional personnel security field investigation can be completed within the time limit required. It would not, however, be considered a substitute for the background investigation which would be completed in any event.

The DOD proposal includes stringent safeguards to protect the rights of employees before, during and after the conduct of the examination. For example: No question could be asked during the examination which had not been reviewed with the subject previously. Legal counsel could be available to the subject during the examination. Anyone who did not pass one examination would be entitled to a second examination by the same or a different examiner. The technical records of the examination may not be disseminated outside the officer conducting the examination except as required by law. At enclosure 2 is a detailed listing of the required safeguards.

In short, Mr. Chairman, we have made every effort to devise a proposal for utilizing the polygraph that is limited in terms of those who may be subject to it; limited, in terms of the kinds of questions that may be asked; and limited, in terms of its effect on a particular individual. At the same time, we have provided as many safeguards for the entire process as we can devise to ensure our employees are treated fairly, and that their rights and privacy are protected.

It is difficult for us to ignore the demonstrated utility of the polygraph at CIA and NSA, where it has been successfully put to use for over twenty years. One cannot also ignore the fact that our adversaries' efforts to penetrate the Defense and Intelligence establishments continue unabated, and, regrettably, have been successful, to the great detriment of the United States and her allies. The cases I previously cited are recent reminders of the relentless nature of the espionage threat, and indeed, the damage that can be inflicted by a single individual. We can spend billions of dollars on sophisticated military systems, communications systems or intelligence-gathering programs, only to have them rendered ineffective as a result of one person's treachery. We wonder, then, whether it is wise to foreclose, as H.R. 4681 would do, one available means of coping with this insidious threat. Of course, the polygraph is not a perfect tool, but we believe it can be used to supplement other security measures in a manner that protects the rights of Federal employees, while at the same time giving us indication of potential security problems in our most sensitive programs that we do not now have.

Now, let me conclude with some brief remarks concerning pre-publication review. H.R. 4681 would have the effect of prohibiting the use of agreements with pre-publication review requirements in them, except at CIA and NSA, and would rescind any other such agreements which are already in effect.

We did not implement the new non-disclosure agreement, containing the pre-publication review requirement, developed under NSDD-84. We did,

however, in March of 1982, at the request of the Director of Central Intelligence, commence use of the CIA's Uniform Nondisclosure Agreement, containing a pre-publication review provision as a condition of access to sensitive compartmented information or SCI. Since March 1982 and continuing currently, approximately 100,000 persons with SCI access in DOD, excluding NSA, have signed this form. Although it imposes a lifetime obligation to submit for review to the employing agency documents that a person may write for publication which in his judgment contain SCI, relatively few have declined to sign the agreement.

Although it is early to assess the utility of this agreement, it does not to date appear to have had a significant impact. Leaving NSA aside (where such agreements have been commonplace for many years), there have been only five documents submitted for review under the SCI agreement DOD-wide, and none of those involved former employees. To our knowledge, there have been no known instances of non-compliance by former employees who have signed the agreement, although admittedly the agreements have been in force for only a short time.

If H.R. 4681 were enacted, it obviously would have the effect of rescinding the old non-disclosure agreements that have been signed in DOD since March 1982 -- all 100,000 of them; and it would preclude their use in the future in all DOD components, save NSA.

Whether former employees with SCI access should have a lasting contractual obligation to submit materials which may contain SCI for government review is the issue, and one which has proven very contentious. While there are few cases to demonstrate a significant problem -- that is, where former employees with SCI access actually write about sensitive intelligence sources and methods -- when these do occur, the existence of a non-disclosure agreement or contract does provide the government with a remedy sanctioned by the Supreme Court in the Snepp case that it otherwise would not have -- a civil cause of action. Moreover, the review process in effect for some time at CIA and NSA has in fact succeeded in preventing a considerable amount of classified information from being disclosed to the public.

We believe these benefits justify the establishment of a pre-publication review requirement in the SCI area, and the imposition of a lasting, albeit very limited obligation on former employees who had SCI access, to submit documents which in their judgment may reveal intelligence sources and methods. H.R. 4681 would obviously change that, and forbid the imposition of such requirements in the future.

I will be pleased to answer any questions you may have.

Counterintelligence Scope

When the scope of a polygraph examination authorized under the DOD Regulation is limited to counterintelligence areas, questions posed in the course of the examinations shall be limited to those necessary to determine:

Whether the examinee has:

1. Ever engaged in espionage or sabotage against the United States.

2. Knowledge of anyone who is engaged in espionage or sabotage against the United States.

3. Ever been approached to give or sell any classified materials to unauthorized persons.

4. Ever given or sold any classified materials to unauthorized persons.

5. Knowledge of anyone who has given or sold classified materials to unauthorized persons.

6. Any unauthorized contact with representatives of a foreign government.

Safeguards to Protect Rights of Personnel

. Individuals must be given timely notification of the date, time and place of the polygraph examination.

. Individuals must be advised of their right to obtain and consult with legal counsel and to have legal counsel available for consultation during the polygraph examiantion.*

. Individuals must be advised of their privilege against self-incrimination.*

. Examinee may, upon his or her own volition or upon advice of legal counsel, terminate the polygraph examination at any time.

. No relevant questions may be asked during the examination that have not been reviewed with the examinee prior to the examination.

. All questions asked concerning the matter at issue must have a special relevance to the subject of the inquiry. Probing of a person's thoughts or beliefs and questions about conduct which have no security implication or are not directly relevant to an investigation are prohibited (e.g., religion, racial matters, political beliefs and affiliations.)

. Technical questions necessary to the polygraph technique must be constructed to avoid embarrassing, degrading or unnecessarily intrusive questions.

. Relevant questions asked during polygraph examinations conducted for the purpose of assisting in determining eligibility for initial or continued access to classified information must be limited to prescribed counterintelligence topics.

. Results of an analysis of polygraph charts must be considered in the context of other investigative effort, and not as conclusive in themselves of the matter under investigation.

---

* Does not pertain to polygraph examinations conducted in connection with individuals who are or who purport to be agents, sources or operatives in intelligence operations.

. When a polygraph examination results in a finding of deception indicated, the examinee has the right to request a second examination by the examining agency.

. Individuals transferred or reassigned to a nonsensitive position in connection with their refusal to undergo a polygraph examination shall not incur any loss in grade, rank or pay.

. The fact that an individual has refused to undergo a polygraph examination shall not be disseminated to the individual's supervisor or employer, unless administrative action is being considered.

. Any adverse consequences taken in cases involving the polygraph are appealable in accordance with applicable personnel or security appeals procedures.

. Prior to the examination, examinee must be advised of the nature and characteristics of the polygraph instrument, including an explanation of the physical operation of the instrument and the procedures to be followed during the examination.

. Examinee must be advised if the polygraph examination area contains a two-way mirror or other device, through which the examinee can be observed and if other devices such as those used in conversation monitoring or recording, will be used simultaneously with the polygraph.

. Polygraph examination technical reports shall be retained by the office conducting the polygraph examination and shall not be disseminated outside the Department of Defense except as required by law.

. The results of a polygraph examination may be made available only to:

.. Officials with DOD responsible for personnel security, intelligence, counterintelligence, law enforcement, and the administration of justice.

.. Law enforcement officials outside DOD when the examination has been conducted in connection with the investigation of a criminal offense or reveals criminal activity on the part of the individual examined.

.. The examinee or his or her legal counsel, upon request.

.. DOD component members of the National Foreign Intelligence Board (NFIB) and other NFIB member agencies provided there is an official need for the material and the third agency limitation will be applied.

.. The National Archives and Records Service, General Service Administration, upon retirement of the file.

. Polygraph examinations shall be administered only by DOD polygraph examiners who have been selected, trained, and certified in accordance with established DOD policies and procedures.

STATEMENT OF
PHILIP T. PEASE
DIRECTOR OF SECURITY
NATIONAL SECURITY AGENCY
BEFORE THE ARMED SERVICES COMMITTEE
U.S. HOUSE OF REPRESENTATIVES
September 6, 1984

Mr. Chairman, I appreciate the opportunity to appear before the Subcommittee today to explain the polygraph program at the National Security Agency.

NSA, and its predecessor agency, has used the polygraph as a personnel security screening technique since 1951. Originally it was used as an emergency measure to expedite the security processing of new employees who were awaiting clearance. In 1953, the polygraph examination became a condition of access for all civilian job applicants. Since the 1950s a polygraph examination has also been a requirement for contractor personnel requiring sensitive compartmented information (SCI) access. We also polygraph other affiliates such as GSA custodial personnel, federal protective service police and consultants. In late 1982 we initiated a program to polygraph military assignees once they are on-board at NSA. I will say more about this later.

The function of the polygraph is threefold:

First, to assist in verifying the identity of an individual being considered for access to SCI. Second, to assist in focusing upon suitability and counterintelligence issues, though I must add that from my point of view all our polygraph questions and programs are concerned with counterintelligence. Third, to detect espionage, sabotage and terrorism or the potential for same.

We conduct three basic polygraph examinations at NSA which support our overall personnel security supervision program. This personnel security supervision program involves the conduct of appropriate applicant and employee type investigations, an aggressive security awareness program and professional security officers assigned to major agency organizations.

The first polygraph program is for initial access to sensitive information. Here we conduct full screening polygraph examinations of applicants for employment, contractor applicants for access, GSA personnel and a few other categories of affiliates. The full screening polygraph examination consists of relevant questions about the following topics:

. Identity of person being polygraphed
. Espionage
. Sabotage
. Unauthorized disclosure of classified information
. Unauthorized contacts with representatives or agents of foreign governments
. Involvement in Communist, Fascist or Terrorist activity
. Serious crimes
. Adult homosexual activity
. Illegal drugs or narcotics
. Deliberate falsification of security forms
. Serious mental disorders

A second program is for single or special issues. Here we use the polygraph to help resolve issues bearing on the continued access of an affiliate - for example, to resolve allegations of drug use or possible espionage by an affiliate.

We have had these two programs for more than 30 years.

Our third program is the aperiodic and reinvestigation polygraph. In August 1982 Deputy Secretary of Defense Carlucci, acting on recommendations from the DOD Select Panel on Personnel Security, authorized polygraph examinations of DOD affiliates who held sensitive compartmented information access. In October 1982, we implemented this program at NSA. Since then we have been polygraphing on-board affiliates, persons having access to sensitive NSA information: Employees, contractor personnel, and military assignees. The program applies to everyone. It is mandatory. The scope of this polygraph program is limited strictly to counterintelligence questions: Espionage, sabotage, unauthorized disclosure of classified information, unauthorized contact with agents of foreign governments and knowledge of others involved in the foregoing. For our purpose today I will call this the aperiodic polygraph program though in fact we polygraph our affiliates under this program under several criteria:

. Randomly, aperiodically
. At the time of the five year reinvestigation
. For especially sensitive projects

Some statistics of this newest NSA polygraph (and I must add here that in years past we have had versions of this program but lacking the mandatory feature) are quite interesting. For example, this year alone, from 1 January to 30 June 1984, we polygraphed 1322 affiliates under the aperiodic program. Some 23 of these 1322 people provided us relevant information requiring a more detailed clearance evaluation. The information they provided is quite miscellaneous - I will give you three examples.

. An individual described a suspicious approach by foreign personnel and had failed to report this incident previously. We investigated and provided the information to the FBI. Our employee had been reminded of his obligation to immediately report suspicious approaches by foreign personnel.

. An individual kept a classified military manual in his possession at his residence for several years. He originally took the manual home to study for a test. He returned the manual to us.

. Another individual knew of improper destruction of crypto material. However, he was not personally involved.

Now I'll describe the overall scope and impact of our polygraph activities. From 1 July 1983 to 30 June 1984 we conducted a total of 11,442 polygraph examinations in all the programs I've described. We initiated the security processing of 4476 applicants. We cancelled out 2601 of more than 50 percent for a variety of reasons including the applicant declining to participate in further applicant processing or declining a job offer. NSA's applicant review panel is composed of personnel, security and medical managers, looks at problem cases to decide if processing should

proceed. The problem may be medical or psychological, security, employability. This panel rejected 793 people for further processing (included in the 2601 I mentioned above). I estimate that in 90 percent of the panel cases - or 714 of the 793 - information obtained during the polygraph interview was relevant to the decision not to further process.

While the polygraph process is a significant collector of information in our applicant processing it is no less a factor in the clearance processing of contractor personnel. During the first half of 1984 we polygraphed 1202 contractor personnel. One hundred and sixty-seven were denied access based on information developed during the polygraph interview.

The NSA Personnel Security Program is established in Public Law 88-290 and we adhere to the standards set by the DCI for access to sensitive information. Most disqualifying information disclosed during the full screening polygraph examination concerns extensive drug use or undetected crimes. While of course rare, we have had some extraordinary admissions made by applicants during the polygraph interview - murder and train wrecking for example. You will see examples of important information developed during our polygraph examinations in two studies being put before you - the DOD/NSA Study on The Accuracy and Utility of Polygraph Testing and the DCI Security Committee Summary of major polygraph cases in the intelligence community Polygraph Utility Study, February 1984. I will return to this area.

Prior to Mr. Carlucci's August 1982 policy we did not routinely polygraph military assignees. Beginning 1 October 1984, all military personnel under consideration for assignment or detail to NSA shall be required to undergo a CI-Scope polygraph examination in determining their eligibility for such assignment or detail. Where possible these polygraph examinations will be by their parent service prior to assignment to NSA. And, as I mentioned, military personnel are also under the mandatory NSA aperiodic polygraph program. During the first ten months of FY 1984, 639 military personnel have been polygraphed at NSA under this program.

These then, are the polygraph programs. They are only as effective as the polygraph and those that use it can make it.

The current instruments used by federal agencies are the product of 85 years of development by scientists and practitioners. The physiological channels which they record are the product of lengthy research. The instruments, which are of scientific quality, record respiration, electrodermal responses, and cardiovascular responses. The physiological information is recorded on a moving chart which has a speed of 2 1/2 millimeters per second (about six inches per minute). In each polygraph examination, there are at least two polygraph charts of several minutes each. In more complex situations, there may be as many as six or seven charts. The minimum time for an interview, including a polygraph examination is about one hour, but it more often takes from one and one half to three hours, and cocasionally longer than that.

In the pretest interview, the subject of the examination reads a full statement of his rights. In all cases that includes mention of the Fifth Amendment right to avoid self-incrimination, mention that the

subject may refuse to answer any questions, and that the subject may terminate the interview at any time. In a criminal case the Miranda warning is included, or Article 31 of the Uniform Code of Military Justice. When the polygraph is used in determinations for clearance and access to classified information, we advise of the Privacy Act of 1974 which includes a discussion of the principal purposes for which the information will be used and mentions that the disclosure of the information is voluntary, and the information will be considered confidential. It warns the person that any information provided relating to violation of criminal laws may be disseminated to law enforcement agencies.

Following the explanation of the subject's rights, there is a review of the subject's general health, and fitness to take a polygraph examination. After that the examiner reviews the issues that are to be resolved during the polygraph examination which includes an opportunity for the subject to explain in detail his or her view of the matter under consideration. Working with the examiner, the subject and examiner arrive at mutually acceptable questions to resolve the issues. The testing technique is then explained in detail to the subject. The attachments which are placed on the subject are also explained in detail. The subject is asked to sit still, pay attention to the questions and answer with a definite "yes" or "no", as appropriate.

Basically, the polygraph examination is a method of questioning whereby an individual is required to unequivocably respond with a yes or no answer to direct questions which have been previously reviewed with and the answer agreed upon by the subject of the examination. This questioning is done while the examinee is attached to a very sensitive instrument which monitors the person's respiration, electrodermal response, and cardiovascular activity to determine if there are any significant and consistent changes in these areas in direct response to any of the questions. The objective is to ascertain that there are no reactions which would indicate that, at the time of the examination, the answers posed no problems nor stirred any anxiety. Should significant and consistent reactions occur to any one or more of the questions, this would be a definite indicator that the answer provided to the question as worded on the test was not considered completely satisfactory by the examinee.

Reactions are significant changes from the baseline recording which is established as the norm in each of the recorded areas at the beginning of each polygram or chart. Depending on the individual examinee, these changes may be as massive as a total cessation of breathing or a major increase in blood pressure or as subtle as a change in the inhalation-exhalation pattern of respiration or slight decrease in skin resistance. The point is that the reactions will occur specifically at the problem question and not randomly, they will be significant to the trained examiner, and they will be consistently occurring at the problem question whenever it is asked.

Upon completion of the test series, the examiner makes an initial evaluation of the charts. If the results indicate deception, the subject is told that, and the specific questions are discussed. The subject is given every opportunity to explain his specific reactions to these questions and to make any admissions that he chooses. The information provided will be the basis of additional or modified test questions in those

areas in an effort to resolve the issue.

At NSA, at the conclusion of the examination and interview, the information provided by the examinee is reviewed with him by the examiner to ensure that it has been accurately noted by the examiner. When the examiner begins to prepare his report of the examination, he will again analyze the charts prior to making his final determination. The report of the examination, including the polygraph charts, the examiner's original notes, and the audio tape of the examination and review with the examinee, is reviewed by a supervisor who is a senior examiner. This individual will do a separate analysis of the charts and then review the report with the tape to ensure accuracy. Once he is satisfied in these areas, the report is forwarded to our clearance division, a completely separate entity within the Office of Security, where the information is evaluated to determine the individual's eligibility for access to sensitive compartmented information in accordance with the standards established by Director of Central Intelligence Directive 1/14 (DCID 1/14).

If the information provided is considered disqualifying and the individual is a military assignee, the sponsoring service is notified and usually takes appropriate action to reassign the person to other duties. If the information provided is not considered disqualifying but the assignee did not pass the polygraph examination, another exam will be scheduled with another examiner to attempt to resolve this matter.

This then, is the manner in which a "real world" polygraph examination is conducted and how the quality control procedures work at NSA.

Let me conclude on the most important point. We in the security and CI business must evaluate any program, including the polygraph, on the basis of its effectiveness in detecting or deflecting espionage. We at NSA have been saved from major problems by this invaluable tool. Both the DOD/NSA Study and the Security Committee Study contain summaries of such cases. Some are not without ambiguity and I don't propose to recount all these cases here. Let me summarize just two cases from recent years:

. A military person about to retire from active duty where he had access to sensitive compartmented information applied for a job with NSA. He had a clean record. He reacted to polygraph questions about espionage. He was confronted about these reactions. He said that only days before he had visited the Soviet Embassy in Washington to make arrangements to defect. The Soviets suggested he complete his processing for sensitive employment.

. An applicant for employment at NSA reacted to espionage questions. He then admitted knowing and working with a foreign intelligence officer. He declined to give us details and he continued to react to the relevant counterintelligence questions.

This information could have been gained no other way - only our skilled polygraph examiners saved us from potential disaster.

I have every confidence in the polygraph as a valid technique and every confidence in the skill and integrity of my polygraph examiners.

I will now answer any questions you may have.

POLYGRAPH AND PREPUBLICATION REVIEW POLICIES OF FEDERAL AGENCIES*

By

Frank C. Conahan
Director
United States General Accounting Office

June 11, 1984

The Honorable William D. Ford
Chairman, Committee on Post Office
and Civil Service
House of Representatives

Dear Mr. Chairman:

Subject: Polygraph and Prepublication Review Policies of Federal Agencies (GAO/NSIAD-84-135)

The April 4, 1984, letter from you and the Chairman, Committee on Government Operations, requested that we assist the committees in their on-going efforts examining the effects of National Security Decision Directive-84 (NSDD-84). (See encl. V.)

On April 23, 1984, you and Chairman Brooks sent a questionnaire to those agencies and offices that handle classified information. The major purpose of the questionnaire was to determine the effect of the two provisions of NSDD-84 that require (1) all individuals with sensitive compartmented information (SCI) access to sign a nondisclosure agreement containing a prepublication review requirement and (2) all agencies to revise existing policies and regulations as necessary so that employees could be required to submit to a polygraph examination during the course of an investigation of an unauthorized disclosure of classified information.

Most of the information you requested from the agencies is included in summary form in enclosure I. It includes actual figures as well as estimated figures where data were not readily available. As agreed with your office, we did not verify the information reported by the agencies, but we did request clarification in many cases.

Agencies were asked to respond to the questionnaire within 15 days. By June 5, however, (six weeks after your request) eight agencies and

* On April 4, 1984 Representatives William D. Ford, Chairman of the Committee on the Post Office and Civil Service, and Jack Brooks, Chairman of the Committee on Government Operations wrote to the General Accounting Office and asked that agency of Congress to survey the federal agencies on the use of polygraphs and prepublication censorship. This letter and attachments, by Mr. Conahan, are in reply to that request.

The letter and exhibits were entered into the Congressional Record-Senate, S7693-S7698, on June 20, 1984 by Senator Mathias.

offices had not responded; therefore, data pertaining to them is not included in the information contained in this report. The eight are: The U.S. Arms Control and Disarmament Agency, Department of Energy, Environmental Protection Agency, Interstate Commerce Commission, Department of Justice, Office of Management and Budget, U.S. Trade Representative, and the Executive Office of the President. Forty-three agencies responded to the questionnaire, including a partial response of the Department of the Treasury. We counted the Department of Defense, including the military services, as one response. This report does not include data on the National Security Agency and Central Intelligence Agency because of the sensitivity of their operations.

The following sections summarize information relative to prepublication review requirements, unauthorized disclosures of classified information, and polygraph examinations.

Prepublication Review Requirements

Most agency employees who had access to sensitive compartmented information (SCI), already had signed nondisclosure agreements (Form 4193 or a form similar thereto) with the prepublication review requirement before the President suspended indefinitely that provision of NSDD-84 on February 15, 1984. Twenty-three agencies reported that, as of December 31, 1983, 119,000 of their employees had SCI access and almost all had signed the agreements which contain the lifetime prepublication review requirement. An unknown number of former employees also had signed the agreements. The Department of Defense estimated that, of 156,000 military and civilian employees who had signed agreements, about 45,000 were former employees and employees reassigned to duties not requiring SCI access.

It is also possible that employees working on other than SCI special access programs had signed agreements similar to those used for SCI access. According to Executive Order 12356, which took effect August 1, 1982, an agency head may create a special access program when (1) normal management and safeguarding procedures do not limit access sufficiently and (2) the number of persons with access is limited to the minimum necessary to meet the objective of providing extra protection of the information. At the end of calendar year 1983, there were about 100 non-SCI special access program, compared to about 30 in 1979. Agencies reported that 27,500 government employees and 21,600 contractor employees were involved in non-SCI special access programs. (See encl. II).

The Federal Emergency Management Agency told us that a prepublication review requirement is part of the agreement that individuals must sign for access to two of its special access programs. (At the present time, however, those subject to this provision may delete that section of the agreement pertinent to prepublication review). We do not know how many more special access programs may contain similar prepublication review requirements.

Twelve agencies indicated that, regardless of whether they have SCI access, employees must comply with prepublication review requirements. In most cases, however, agencies do not require employees to sign nondisclosure agreements as part of these prepublication review requirements. Further, the requirements (imposed by these regulations do not apply to former employees. (See encl. III.)

Unauthorized Disclosures of Classified Information

Four agencies (the Departments of Commerce, Defense, and State, and the Nuclear Regulatory Commission) reported having 43 unauthorized disclosures of classified information during calendar year 1983. One was made through a published writing or speech (by a then-current employee of a contractor). None were made by former employees through published writings or speeches.

Polygraph Examinations

Nine agencies told us that their employees were given 11,178 polygraph examinations in calendar year 1983, and four of the nine employed a total of 131 polygraph operators (see encl. IV). Of these agencies, the Department of Defense employed 123 polygraph operators and gave 10,502 examinations. Practically all examinations given by the other agencies were given in connection with criminal or specific-incident investigations. The General Services Administration and Postal Service have regulations that limit the voluntary use of the polygraph to criminal investigations.

The number of pre-access screening examinations given by the Department of Defense in 1981, 1982, and 1983 were as follows:

	1981	1982	1983
Total number of polygraph examinations	6556	8657	10,502
Examinations for pre-access screening	45	1176	3,105

The pre-access screening examinations given in 1983 include about 3,000 examinations that are part of an Air Force program testing the use of the polygraph.

When asked about plans to employ additional polygraph operators, Defense stated that it plans to hire 50 additional operators, and that these operators would permit an additional 10,000 screening type examinations annually.

Although the Department of Justice did not respond in time for inclusion of its data in this report, we understand that Justice and the Department of the Treasury also use the polygraph for pre-access screening.

The Federal Emergency Management Agency stated that, although it did not employ polygraph operators or have a contract for polygraph service; it had plans to institute polygraph screening examinations in connection with two of its non-SCI special access programs. However, the Agency said that it was holding in abeyance a final decision on its plans, pending resolution of the legal issues involving use of the polygraph.

The Tennessee Valley Authority, which had been using the polygraph in connection with criminal investigations, told us that it was discontinuing all polygraph use.

Copies of this report are being sent to all agencies that provided information and to other interested parties upon request.

Sincerely yours,

FRANK C. CONAHAN

Director

Enclosures - 5

ENCLOSURE I

Responses to Questions of The
House Committee on Government Operations
And The
House Committee on Post Office and Civil Service

(All 51 executive branch agencies that handle classified information were queried; however, 8 did not respond. The responses from the remaining 43 are included below.)

QUESTION 1

Approximately how many full- and part-time people were employed by the federal government as of December 31, 1983?

RESPONSE

In the 43 agencies that responded, there were 5,025,580 federal civilian and military personnel.

QUESTION 2

Approximately how many federal employees and contractor employees had security clearances as of December 31, 1983?

RESPONSE

There were about 2.6 million federal and 1.3 million contractor employees, of the 43 responding agencies, with security clearances at the levels shown below.

Level of Clearance	Federal Employees	Contractor Employees
Top Secret	517,578	111,912
Secret	2,129,557	904,540
Confidential	33,286	304,852
Total:	2,680,421	1,321,304

Of the total number of federal employees--5,025,580, about 10 percent had top secret clearances and 42 percent had secret clearances.

QUESTION 3

How many federal and contractor employees had access to Sensitive Compartmented Information (SCI) as of December 31, 1983?

RESPONSE

There were a total of 118,899 federal employees and 11,041 contractor employees with SCI access.

QUESTION 4

Do agencies consider SCI to be a special access program? Under what authority?

RESPONSE

Eighteen agencies considered SCI to be a special access program. They cited the following authorities:

--Executive Order 12356
--The Director of Central Intelligence
--National Security Decision Directive -84
--Director of Central Intelligence Directive 1/14

QUESTION 5

How many agencies have special access programs as authorized under Executive Order 12356 or similar programs under some other authority?

RESPONSE

Six agencies had special access programs or participated in such programs of other agencies.

QUESTION 6

How many agencies used the polygraph during calendar year 1983?

RESPONSE

Nine agencies used the polygraph or had their employees take polygraph examinations administered by other agencies in calendar year 1983.

QUESTION 7

How many polygraph operators did agencies employ as of December 31, 1983, and how many operators did they have under contract?

RESPONSE

As of December 31, 1983, four agencies employed a total of 131 polygraph operators, and had 2 under contract.

QUESTION 8

Do agencies expect to hire or contract for additional polygraph operators? How many and why?

RESPONSE

The Department of Defense expects to hire an additional 50 examiners in order to conduct 10,000 more screening polygraph examinations.

The Postal Service expects to hire 3 more polygraph operators. This is to improve turnaround time on examinations and reduce operator workload.

QUESTION 9

How many polygraph machines did agencies own as of December 31, 1983? How many did they procure during calendar year 1983, and how many more do they expect to procure?

RESPONSE

Four agencies owned a total of 256 polygraph machines as of December 31, 1983. They procured 2 of these during calendar year 1983. They expect to procure 30 more polygraph machines in the future.

QUESTION 10

Why were polygraph examinations of agency employees conducted? How many of these examinations were conducted of agency employees for calendar years 1979 through 1983? How many were conducted by the agency and how many were conducted by other agencies or by contractors?

RESPONSE

The following tabulation shows the number of polygraph examinations given to employees of the nine agencies for various reasons during calendar years 1979 through 1983:

	1979	1980	1981	1982	1983
Criminal or Specific Incident Investigations					
Conducted by agency	6697	7256	6909	7802	7657
Conducted by other agencies or contractors	4	8	16	27	34
Pre-employment screening					
Conducted by agency	13	18	13	28	16
Conducted by other agencies or contractors	0	0	0	0	1

	1979	1980	1981	1982	1983
Pre-access screening					
Conducted by agency	65	53	45	1176	3105
Conducted by other agencies or contractors	0	0	0	0	3
Subsequent screening					
Conducted by agency	0	0	0	0	0
Conducted by other agencies or contractors	0	0	2	2	1
Other					
Conducted by agency	242	271	302	298	361
Conducted by other agencies or contractors	0	0	0	0	0
Total:	7021	7606	7287	9333	11,178

QUESTION 11

How many agencies require employees to submit to any prepublication review procedure (other than to review official statements on behalf of the agency)? How many employees do these procedures cover?

RESPONSE

Twelve agencies required their employees to submit to prepublication review. Prepublication review procedures cover 3,423,418 agency employees.

QUESTION 12

For each calendar year since 1979, how many books, articles, speeches, and other materials were reviewed during the prepublication review process?

RESPONSE

The following tabulations show the types and quantities of information reviewed during calendar years 1979 through 1983. Separate tabulations are shown for the Department of Defense (DOD) and the other respondents because DOD combined books and articles and because the Department of the Army responded in number of pages reviewed for 1982 and 1983.

The Department of Defense

	1979	1980	1981	1982	1983
Books/Articles	2994	3133	2784	6457	10,099
Speeches	1320	1360	871	2237	2,020
Other	4816	4344	5178	4713	5,102
No. of pages -- Army				92,918	77,404

Other 11 Respondents

	1979	1980	1981	1982	1983
Books	18	22	19	17	34
Articles	4754	4774	4814	5363	5461
Speeches	11	50	43	352	365
Other	5013	5018	5009	5371	5294

QUESTION 13

What was the average number of working days that elapsed from the date of receipt of a request for prepublication review of a document to the date that the requestor was informed of the final results?

RESPONSE

The 12 agencies reported the following range of time (in days) for the prepublication review process:

	Number of Days
Books	2 to 20
Articles	1 to 11
Speeches	2 to 10
Other	4 to 8

QUESTION 14

During calendar year 1983, approximately how many employees were assigned and how many working days were used for prepublication reviews?

RESPONSE

Responding agencies assigned a total of about 211 full-time employees and used 5,268 working days for prepublication reviews.

QUESTION 15

How many unauthorized disclosures of classified information were there during calendar year 1983? How many of these were not reported to the Department of Justice?

RESPONSE

Four agencies reported 43 unauthorized disclosures of classified information. Of these, 34 were not reported to the Department of Justice.

QUESTION 16

How many unauthorized disclosures of classified information were made through books, articles, or speeches, written by then-current employees or former employees during calendar year 1983?

RESPONSE

One of the 43 identified in question 15 was made through a speech or publication by a then-current employee of a contractor.

ENCLOSURE II

Employees With Clearances, SCI Access, and Non-SCI Access

	Total	Defense	State	Treasury	Interior	NASA	FEMA	Other Agencies
Number of Agency Employees	5,025,580	3,317,086	24,016	124,287	74,482	22,000	2,357	1,461,352
Level of Clearance:								
Agency Employees:								
Top secret	517,578	480,360	13,938	6,871	596	523	1,726	13,564
Secret	2,129,557	2,066,643	733	2,993	1,658	15,706	572	41.252
Confidential	33,286	28,160	0	274	104	719	0	4,029
Contractor employees:								
Top secret	111,912	111,000	0	183	0	0	400	329
Secret	904,540	900,000	0	0	3	0	250	4,287
Confidential	304,852	304,800	0	0	0	0	0	52
SCI access:								
Agency Employees	118,899	111,167	4,350	1,733	229	280	199	941
Contractor Employees	11,041	10,808	200	2	0	29	1	1
Employees assigned to non-SCI special access programs:								
Agency employees	27,530	26,559	0	0	0	0	904	67
Contractor employees	21,587	21,250	0	0	0	0	337	0

ENCLOSURE III

Agencies Involved in Prepublication Review

		Defense	State	NASA	TVA	USIA	AID	SEC	Fed. Res.	Overseas Private Invest. Corp.
No. of employees covered by agency directive		All	All	All	All	All	All	All	All	All
Quantity of material reviewed in 1983:	Books	10,088[a]	10	15	0	5	1	2	1	0
	Articles		269	4,500	600	24	15	7	45	1
	Speeches	2,020	14	0	280	33	30	8	0	0
	Other	5,102[b]	0	5,000	0	0	60	36	0	0
	No. of pages	77,404								
1982:	Books	6,457[a]	1	15	0	1	0	0	0	0
	Articles		202	4,500	600	15	35	10	0	1
	Speeches	2,237	8	0	280	25	30	9	0	0
	Other	4,713	0	5,000	0	0	101	27	0	0
	No. of pages	92,918[b]								
No. of employees assigned to prepublication review		80	86	0	40	2	1	1	1	1
No. of working days used for prepublication review		4,459	205	100	55	8	5	10	-	1
Average no. of working days used for each type of material:										
	Books	17.8	20	10	0	10	2	20	10	0
	Articles	10.7	10	10	3	2	3	10	3	1
	Speeches	5.3	5	10	3	2	3	5	0	0
	Other	5.2	0	10	0	0	4	8	0	0

[a]Defense's response combined books and articles

[b]The Department of the Army responded in number of pages reviewed.

Note: Three agencies - The Department of Education, Peace Corps, and the Federal Emergency Management Agency - reported having prepublication review requirements but did not report any activity.

ENCLOSURE IV

Polygraph Use By Nine Agencies

		Total	Dept. of Defense	Dept. of Trans.	Tenn. Valley Auth.	Dept. of Labor	Fed. Res. System	Dept. of State	Postal Service	Dept. of Comm.	General Services Admin.
Agencies using polygraph	1983:	9[a]	yes	yes	yes	yes	yes	yes	yes	yes	yes
	1982:	8	yes	yes	yes	no	no	no	yes	no	yes
Types of examinations:											
Criminal or specific incident	1983:	7691	7028	6	14	7	2	5	623	2	4
	1982:	7829	7155	14	7	5	0	0	645	0	3
	1981:	6925	6196	6	3	2	0	5	711	1	1
Pre-access screening:											
	1983:	3108	3105	0	0	0	0	2	0	1	0
	1982:	1176	1176	0	0	0	0	0	0	0	0
	1981:	45	45	0	0	0	0	0	0	0	0
Agency polygraph operators:											
	1983:	131	123	0	0	2	0	0	6	0	0
	1982:	194 *	112	0	0	0	0	0	6	0	0
Agency polygraph machines:											
owned as of December 31, 1983:		256	238	0	0	2	0	0	16	0	0
purchased in 1983:		2	2	0	0	0	0	0	0	0	0

Agency plans:

1. The Department of Defense anticipates hiring 50 additional polygraph operators to permit 10,000 screening type examinations.
2. The Postal Service expects to hire 3 additional operators.
3. The Federal Emergency Agency plans to institute polygraph examinations in the future, but the final decision is pending until legal issues involving the use of the polygraph are resolved.
4. The Tennessee Valley Authority does not anticipate using the polygraph in the future.

[a] includes the Departments of Justice and Treasurey, as reported to us last year. Current information concerning polygraph use by those agencies was not received in time for inclusion in the chart.

* These figures are as reported, despite the fact that 112 examiners in DoD and 6 in the Postal Service do not add up to 194. Indeed, both figures for DoD appear inaccurate. In the book, The Accuracy and Utility of Polygraph Testing by the Department of Defense (1984) they report the number of examiners in 1983 as 153 (not 123) and for 1982 as 122 (not 112).

ENCLOSURE V

Ninety-Eighth Congress
Congress of the United States
House of Representatives
Committee on Government Operations
2157 Rayburn House Office Building
Washington, D.C. 20515
April 4, 1984

The Honorable Charles A. Bowsher
Comptroller General
General Accounting Office
Washington, D.C. 20548

Dear General:

In January, H.R. 4681, the Federal Polygraph Limitation and Anti-Censorship Act of 1984, was introduced and referred to the Post Office and Civil Service Committee where it is now under active consideration. This bill is a comprehensive response to the Administration's polygraph and censorship policies, both the National Security Directive 84, issued by the President, and those designed and implemented at the agency level.

Recently, the President announced his intention to suspend the polygraph and prepublication censorship portions of his National Security Directive through this session of Congress. The effects, however, of this suspension on the polygraph and censorship policies which were not contained in the President's Directive are not clear. In order that this legislation be properly evaluated, it is necessary that Congress be fully apprised of the effects, if any, the suspension of the President's National Security Directive 84 has on the current polygraph and prepublication censorship policies in effect at the agencies of the Federal Government and on any proposed changes in those policies contemplated at this time.

To this end we request that the General Accounting Office update its survey of the Federal agencies conducted in preparation for hearings held last October by the Government Operations Committee on these issues. Along with this update, it is requested that the GAO also make broader inquiry into the current use of polygraphs and prepublication censorship requirements by the agencies, any proposed changes in those policies and their likely effects, and the effect, if any, the President's suspension of his NSDD 84 has on those current or proposed policies.

It is important that this investigation be given prompt attention. Congressional moritoriums on proposed changes to the Department of Defense's polygraph regulations and certain prepublication censorship requirements will expire on April 15. It is, therefore, hoped that you will find it possible to devote maximum staff resources in this effort. Thank you very much for your attention to this request. With every good wish, we are

Sincerely,

William D. Ford, Chairman
Com. on the Post Office & Civil Service

Jack Brooks, Chairman
Com. on Government Operations

STATEMENT OF
EXECUTIVE ASSISTANT DIRECTOR JOHN E. OTTO
FEDERAL BUREAU OF INVESTIGATION
BEFORE THE
HOUSE JUDICIARY SUBCOMMITTEE ON CIVIL AND CONSTITUTIONAL RIGHTS
HEARING ON THE FEDERAL POLYGRAPH LIMITATION AND ANTI-CENSORSHIP
ACT OF 1984
September 12, 1984

Mr. Chairman and members of the Subcommittee, I welcome the opportunity to share with you the FBI's use of the polygraph and views concerning pending legislation in this area.

Present FBI policy regarding the use of the polygraph encompasses many different factual situations that do not involve allegations of criminal conduct or unauthorized disclosure of classified information. Examples of such situations include the use of the polygraph as a factor in resolving questions concerning an applicant's suitability for employment with the FBI, as well as a factor in resolving issues that concern serious violations of FBI policies or fitness for duty. H.R. 4681, as presently drafted, would prohibit these uses of the polygraph, thereby severely jeopardizing the bureau's ability to assure the trustworthiness, reliability, and effectiveness of its employees.

We recognize that the polygraph should not be used indiscriminately. A properly structured polygraph program balances the need for security and relevant information with the protection of the individual's rights. At the FBI, the decision to request an employee to submit to a polygraph examination is made on a case-by-case basis. Additionally, it is not our policy to require or coerce an employee to submit to a polygraph examination, although, in certain limited situations, an adverse inference may be drawn from an employee's refusal to submit to a polygraph examination.

The FBI and other members of the intelligence community have national security responsibilities which are, to a great extent, indistinguishable from those of the CIA and National Security Agency (NSA), both of which are exempted under Section 6 of the bill. Information originating with any of the members of the community is frequently shared with one or more of these members; therefore, the penetration of any such agency by a foreign intelligence service or the unauthorized disclosure by an employee has as great a potential for damage to the national security or foreign policy of the United States as the loss of information in possession of NSA or the CIA. The bill creates a disparity in the safeguards employed by agencies possessing the same information. There are positions within the FBI which require access to the same type, if not the same, sensitive information in possession of NSA or the CIA.

The direct impact of the bill on the FBI can be illustrated by several examples. In the preemployment area when a decision has to be reached to hire someone who will have access to sensitive material, the FBI is frequently confronted with applicant background information which is not verifiable through normal investigation because this information is sometimes only available in other countries. Although individuals with certain ethnic backgrounds are especially valuable to us, such a lack of

Polygraph 1984, 13(3)

verification could prevent their being hired. In addition, although someone with a highly desirable ethnic background may have spent his/her entire life in the United States, hostage situations may exist where family members or friends remain in hostile countries. The only way to discover such a situation or its effect on the applicant or employee may be through use of the polygraph. In situations involving information or allegations pertaining to on-duty employees, the problem is even more serious. The limitation of damage done to the national security would be dependent upon the speed of discovery. The bill in Section 3(B) implies that an investigation must have focused upon the particular employee and then only when classified material, as defined by the executive order, or criminal conduct is involved. The initial stages of contact with an intelligence officer frequently involve information which, while not classified and not criminal in its passage would be of extreme importance to a hostile service and would quickly lead to the passage of more sensitive information if not acted on promptly. The bill would greatly hinder the FBI's efforts in such a situation where prompt but judicious use of the polygraph would result in a quick resolution and limitation of national security damage.

The Bureau's use of the polygraph is a responsible and measured response to investigative requirements. During fiscal year 1983, the polygraph was used in only 166 situations which would have been proscribed by the bill. Of those, 40 involved personnel matters, 116 applicant matters, and 10 security clearance matters. While the number of examinations was small, the beneift derived was extremely great. As these numbers indicate the FBI's use of the polygraph in those situations which would have been proscribed by the bill, is subject to stringent internal controls which include high level review and approval, strict guidelines, and annual audits.

The proposed legislation's prohibition on the use of prepublication review requirements would dramatically affect the FBI's policy in this area. At present, the FBI uses a standard employee agreement contract, FD-291, wherein a prospective employee, as a condition of employment, agrees to submit for prepublication approval the content of any proposed disclosure which includes any information acquired as a result of, or during the course of, his/her official duties/position. The proposed legislation would totally prohibit the continued use of such an agreement. The effect would be to end prescreening of any communication, written or oral, by present or past employees regarding information obtained through their official duties or position.

It should be noted that in the intelligence and criminal investigative fields the damage is done upon the release/disclosure of sensitive information. Even though other statutes or regulations exist which provide for criminal and civil penalties for the unauthorized disclosure of such information, these penalties do not prevent the potential loss and damage to the nation's national security and its law enforcement efforts.

We believe that the proposed legislation is overly broad and restrictive. Its total prohibition is inconsistent with past judicial decisions in the area of prepublication review, [e.g., Snepp v. United States, 444 U.S. 507 (1980)].

DETECTION OF DECEPTION IN 1984: IN DEFENSE OF PREEMPLOYMENT POLYGRAPH TESTING*

By

Frank Horvath
Michigan State University

Among the uses to which polygraph testing is put none is more controversial than that which involves the screening of job applicants. That testing--so called preemployment lie detection--is now of such concern that it has been prohibited in some jurisdictions; in others, including the U.S. Congress, there have been serious attempts in recent years at similar prohibitions. The question before us then is this: Are such prohibitions justified as a matter of public policy? In my judgement they are not. I propose today, therefore, to lay out support for my position. In order to do so I shall consider, and respond to, the major points raised by those on the other side of the issue. Before I do that, however, I wish to emphasize that my comments are restricted solely to the use of the polygraph for preemployment screening and do not necessarily pertain to any other uses. With that caveat in mind let me turn to the objections made to polgraph testing.

Perhaps the most common objection to (preemployment) polygraph testing is that its validity (accuracy) is said not to be sufficient to justify its use. This issue, of course, is one which is amenable to the methods of empirical science and, it is, in fact, the one that has been the focus of the opponents within the scientific community. In the most recent government supported project to assess the validity of polygraph testing it was reported that, and I quote here, "the available research evidence does not establish the scientific validity of the polygraph as a screening tool" (Office of Technology Assessment, 1983). This statement, now often cited in opposition to polygraph testing, is a quite misleading one. It implies the existence of non-supportive empirical research when, in fact, the actual case is--as was documented in the same report--that the research base is almost entirely nonexistent. In short, in this report the absence of evidence became evidence of absence. That problem aside, however, let it be agreed that the accuracy of polygraph-based decisions in preemployment screening is not documented and that there is a clear need for reliable research on that issue.

Accepting that statement as a starting point I wish now to enumerate some of the reasons why the issue of validity (accuracy), relative to other concerns, is not the critical and pressing one in this controversy. First, if it were indeed possible to demonstrate that polygraph testing were 100% accurate in detecting lies or verifying truthfulness there would still be good reason to ask whether such testing ought to be used. And, of course, if the accuracy were less than perfect, as is likely, there may still be good reason to use such testing. Second, the accuracy issue is often used by critics to show the negative effects (of polygraph testing)

*This paper was prepared by Dr. Horvath for presentation to the American Association for the Advancement of Science, New York, May 29, 1984. Dr. Horvath is the Director of the APA's Research Center in the School of Criminal Justice, Michigan State University, East Lansing, Michigan 48824.

on persons who fail such tests and who consequently are not able to be gainfully employed in a particular situation. To say that polygraph testing is objectionable merely because it is a fallible procedure and may, therefore, have negative consequences, is a specious argument. How accurate does such a procedure have to be to be justified and in what situations? If it could be shown that the accuracy of polygraph testing is greater than that obtained by the best personnel interviewers, or by standard aptitude and personality tests would that quiet the critics? I think the answer to such questions is, and ought to be, no. Third, critics almost always focus on only one type of error in their concerns--the false positive outcome, a person whose chance of employment is jeopardized by a polygraph test result that indicates the withholding of information when it should have indicated otherwise. This issue, however, is not as simple and straightforward as the critics make it appear. In actuality only a small proportion of persons who take polygraph tests fail to obtain employment because of an unfavorable test result. The reason for this is that, contrary to common assumption, there are more than two outcomes to be considered in these situations. Persons who take such tests are evaluated not only on the outcome of a polygraph result but also, and more important, in terms of what might be called their "risk potential" in particular employment situations. Thus, in the simplest instance we have a 2 x 2 matrix in which each cell pertains to the joint distribution of a "risk" factor and a test outcome. It is possible, for instance, for one to be shown to be truthful (that is, not withholding information) during a polygraph examination and yet to be considered unworthy of employment of a certain type. For instance, a person who is found to be truthful in denying the commission of not more than six recent, undetected felonies would in spite of that truthfulness, be unlikely to be considered a good candidate for police work. Similarly, a person who is shown via polygraph testing to be untruthful in the denial of involvement in the personal use of marijuana is not likely to be rejected on that ground if other persons being considered for the same position are, relatively speaking, more unacceptable to the employer. In other words, it is seldom the case that a person is rejected for employment merely because of a polygraph test that showed that information was being withhold. Likewise, a test result that does not indicate the withholding of information is not guarantee of employment.

As can be seen, it is quite misleading to consider the effect of polygraph testing on employment opportunities without recognizing that test outcomes per se are not simply and directly related to employment decisions. In fact, according to available data about 70% of all persons who take such tests both pass the test and meet the "risk threshold" as established by the employer; of the remaining 30% something less than 1/3 of them fail to gain employment because of a negative polygraph result. Most persons rejected for employment are rejected not because of their untruthfulness (as indicated by the polygraph test) but rather because of their statements demonstrating to their potential employer their basic unsuitability for particular employment--a narcotics user who is rejected from employment in a drug warehouse, an embezzler who is rejected as a bank teller, an operative of a foreign government who is rejected for work involving national security matters, and so forth.

The fact that it is the information developed and not the polygraph outcome per se that leads most often to rejection, of course, raises other

issues about polygraph testing. These I will discuss briefly at a later point; I note here, however, that these other issues involve matters which neither science nor scientists are any more equipped to resolve than other groups in society.

A second frequent criticism of polygraph tests is that they are administered under duress; that is, that the consent to take one is not freely given in that a refusal to do so will lead to the loss of an employment opportunity. Put in that way, of course, anything an employer requires of an applicant is not freely consented to--from providing basic personal information to the taking of standardized psychometric tests. Thus, the apparent attraction of this argument is in the abstract; in the concrete, it is less vigorous and vital. The consent argument assumes not only that every person has a right to employment, a point on which we might agree, but also that every person has a right to a particular type of employment. We require persons to consent to psychological evaluations of the most intimate nature to become police officers, to consent to medical examinations to work in physically strenuous situations, and so forth. In other words, it must be acknowledged that employment is not a unilateral action. It is, in fact, a contractual agreement, the terms of which are presumably of mutual benefit to both the employer and the applicant. While there are some issues that cannot be a part of such a contractual arrangement, certainly no one would seriously argue that the terms of such contracts ought to be decided solely by the applicant. "Consent" then may well be a requirement which an applicant can either give or not but the latter not with impunity. An applicant has a right to refuse a polygraph test, to refuse to reveal academic background and qualifications, and to decide not to abide by other requirements set by the employer. That does not also grant a right to particular employment in spite of those refusals. (Bear in mind I refer here only to applicants for employment, not to employees.)

The real issue here is this: Does an employer have the right to set reasonable requirements before hiring employees? Assuming that most persons would answer that question in the affirmative, then the corollary question is: Is a polygraph examination a reasonable requirement?

Critics contend that polygraph tests are unreasonable because they are--regardless of their accuracy--offensive, objectionable and an invasion of privacy. Usually critics make these points in conjunction with anecdotes claimed to be representative of field practices. For instance, it is claimed that such testing is used to compel persons to dredge up the most intimate details of their personal lives. While abuses such as these are frequently reported by critics, there is seldom, if ever any substantiation given. Even if there were, however, such anecdotes can hardly be viewed as representative of the actual situation in the field. The fact is that all of the available empirical evidence on this aspect of polygraph testing is quite contrary to which the critics contend. In the last decade there have been seven surveys of the opinions of persons who have actually taken preemployment polygraph examinations; these were carried out in various parts of the country and at different times. Averaging across these results shows that, in fact, between 85 and 95% of the persons who have experienced polygraph examinations said that their examinations were not offensive, objectionable, or an invasion of their privacy. In addition, the overwhelming majority of these persons expressed a

willingness to take polygraph tests in the future should the situation require it.

Why is the empirical evidence so different from what the critics contend? The answer to this is simply that most persons (critics included) do not know what a polygraph examination is actually like. In spite of the common conception of a highly stressful, intrusive atmosphere, polygraph testing is in fact carried out in a setting quite the opposite. Examiners go to some length to ensure that examinees are comfortable, willing, and aware of what the process is and what it will involve. Thus, while it is probably true that most persons do not derive great joy from taking a polygraph examination, it does not follow--as the critics assert --that those persons are abused, or offended or that they suffer a loss of personal dignity and control.

The invasion of privacy argument merits a bit more analysis. In order to examine this issue it is important to consider some of the characteristics of polygraph testing. For example, such tests require the active cooperation and participation of the examinee. The examinee must know the questions which are to be asked and how they are phrased. Most important, the examinee has personal control over what information is revealed, how it is revealed, and whether or not it is to be revealed. These are not characteristics common to what would typify most definitions of the term "invasion of privacy." Moreover, it is important to contrast those features of polygraph testing to, for instance, those which prevail in a standard background investigation or a simple check of references. In these, a job applicant has no control over what information is revealed, how it is evaluated, and indeed in most circumstances, is not even aware, or able to verify, that what was revealed was accurate information. Thus, polygraph testing--properly done--is, relative to most other devices and procedures used in the screening of job applications, far less invasive of privacy. From such a perspective the argument about invasion of privacy is not a very compelling one.

I wish now to return to consideration of the fact that it is the information obtained during the examination process and not the test result that is the salient and distinguishing feature of preemployment polygraph testing. Some persons are offended by this and contend that it is a devious way of getting people to reveal information that they would not otherwise reveal. In my judgment this issue is the most critical one in this controversy. There is little doubt that poeple do reveal surprising frank information--sometimes against self interest--during polygraph examinations. They do so partly out of concern about being detected in a lie. I believe, however, that a more important reason for these revelations is simply that polygraph examiners are very skilled at interviewing, certainly more so than are most persons who make initial personnel decisions. Whatever the reasons for this phenomenon, the crucial question is whether or not we should permit this practice irrespective of all other concerns about polygraph testing.

There are several issues to be addressed in response to this question. First, one has to ask if the information gotten by polygraph testing can also be gotten by another means. On this point there is little doubt; all of the evidence shows that the information obtained during polygraph testing is simply not obtainable by any other means. There is,

in short, no alternative method now available. Second, it is important to point out that the areas of inquiry in polygraph testing deal with items of behavior, not of attitudes, beliefs, or opinions. For instance, it is common during polygraph testing to ask an applicant about involvement in theft from prior employers. What is wrong with expecting people to tell the truth about such issues before they are given employment? Is there, as some of the opponents seem to suggest, an individual or civil "right" either to conceal or to lie about important information when seeking employment? Finally, if polygraph testing were used to solicit information in areas that would be objectionable if solicited by an employer without the polygraph, then its use would be questionable. Fortunately, that is clearly not the way in which polygraph testing is typically used.

Whether or not polygraph tests ought to be permitted is a political, not a scientific, question. Therefore, the problem in dealing with this issue is to steer a course that reconciles the right of individuals to be free from abusive, intrusive and unwarranted polygraph testing with the right of employers, both public and private, to use reasonable means in a fair way to select their employees. That course is clearly not the one proposed by those who advocate complete statutory prohibition. Prohibition denies that there is any legitimate interest in using (preemployment) polygraph testing and for that reason it is quite unreasoned and unacceptable. What then can be done? In my judgement, rigorous regulation of the field is necessary. Such regulation, however, must go considerably beyond the mere licensure of those who administer polygraph examinations. It must make both polygraph examiners and employers who use their services accountable for their actions. There should be restrictions on both the nature and scope of areas of inquiry which are permissible during polygraph examinations. In addition, it should be mandatory for all examinees to be told in advance (by both the employer and the examiner) what is and what is not permissible practice and what course of action is available in the event of significant departures. All examinees should be entitled to know the outcome of their polygraph examination and what information about the examination is shared with the (potential) employer. Finally, all of the information developed during a polygraph examination should be strictly controlled; neither an examiner nor an employer should be permitted to use or share such information without the knowledge of the examinee.

I am confident that regulation fashioned along these lines will minimize abuses and yet provide adequate protection of the competing interests. It is time to acknowledge that like many other things in this world, the good or harm done by polygraph testing depends on how, not whether, it is used.

* * * * * *

PREEMPLOYMENT POLYGRAPH PRACTICES IN THE PRIVATE SECTOR: A SURVEY

By

Donald Krapohl and Ronald Heckman*

Abstract

Forty-one American Polygraph Association members in private practice responded to a survey concerning their preemployment screening practices. It was found that the average pretest interview was 33.5 minutes in length, and the average examination period was 59.4 minutes. The survey respondents reported a very low rate of applicant test refusals (0.5%) and noncooperation with specific areas of inquiry (0.4%). Most surveyed polygraphists employed a deceptive-nondeceptive rating system. All the examiners offer applicants an opportunity to explain difficulties. None of the examiners inquire into sexual activities. It was concluded that the reports from these field polygraphists contrasted strongly with some literature on the topic.

Introduction

There is presently much controversy surrounding the application of polygraph (lie detection methods in the preemployment screening of job applicants. Critics have charged polygraph examiners with violations of personal privacy and have attacked preemployment polygraph methodology on the grounds of unproven validity. Most often the debate has been waged in the popular press: the issues, however, have recently attracted comment from the legal and scientific communities as well.

Testimony before a subcommittee of the United States House of Representatives in 1979 (U.S. Congress) contained claims of clearly objectionable preemployment polygraph practices. Job applicants had reportedly been subjected to inquiries into marital matters, sexual activities, and union sympathies, none of these topics being justifiable in that employment screening. Further testimony suggested that the applicant's cooperation was gained by coercion since responding to these inquiries were perceived by the applicants to be a prerequisite to employment. Although these allegations were directed toward one polygraph firm and its client-company, the report has received much media attention since that time, and

*The authors are full members of the American Polygraph Association. Donald Krapohl is a member of the Missouri Polygraph Association and the Greater St. Louis Polygraph Association. He is the Chairman of the latter organizastion. He is employed by Wells Fargo Investigative Services in St. Louis, Missouri. Ronald Heckman is a member of the Empire State Polygraph Society. He is the Treasurer of that organization. He is employed by the New York Lie Detection Laboratory.

For copies of reprints of this article write to Donald J. Krapohl, Wells Fargo Investigation Services, 1530 South Kingshighway St., St. Louis, Missouri 63110.

as a result has promoted the notion that polygraph examiners routinely conduct unethical and overly intrusive preemployment examinations.

Both critics and proponents of preemployment polygraphy agree that probing into the personal matters of employees and prospective employees should not be tolerated unless the activities in question have a direct effect upon work performance. The question as to whether or not abuses of preemployment polygraph screenings are commonplace is matter of conjecture, as no general investigation into the practices of polygraphists in this area has been published. This void in research knowledge, however, has not prevented authors from emphasizing these incidents of reported abuse when writing about preemployment polygraphy. Lykken (1981) wrote:

> Some polygraphers ask outrageous questions in these employee screenings, inquiring into the sexual, political, and other behavior of the respondent, a practice that is clearly improper by any standards.

Lykken, a longtime and informed critic of polygraphy, has presented this claim in a number of his writings. While the present authors do not take issue with the possibility of unethical activities by some polygraph practicianers, we are concerned that readers may be left with the impression that such abuses are pervasive throughout the industry, an assumption which is largely conjectural at this time as it has not been supported by research.

Similarly, Raskin (1979), a noted authority on polygraphy, has reported that a preemployment "... examination often runs as little as 10 minutes, with a typical examination running approximately 30 minutes." Raskin maintains that it is impossible to conduct a valid examination within the limits of such a time frame. Raskin also critisizes the inclusion of questions of a very personal nature which he states can make polygraph data difficult to interpret. As an overall objection to polygraph screening, Raskin contends that preemployment polygraph testing cannot assume any reasonable validity because it violates some of the theoretical principles underlying test construction.

Despite the arguments that emphasize the theoretical weaknesses in preemployment polygraph testing, there are data which indicate high accuracy in the administration of these examinations. In a laboratory study, Correa and Adams (1981) found that information could be verified with a high degree of accuracy using a structured polygraph format. These researchers recorded an overall rating of 100% in 40 subjective classifications of deception and truthfulness in preemployment examinations. Of equal significance was the total lack of false-positives in the ratings of the overall records, an undesirable phenomenon estimated by some writers to be as high as 68% of those classified deceptive (Lykken, 1974). While the study by Correa and Adams was the first to examine polygraph's use in screening under laboratory conditions, the findings indicated that this proposed high number of false-positives proposed by some writers may have been overestimated.

One approach to researching preemployment polygraphy that has been explored by several researchers is the measurement of applicant attitudes toward preemployment testing after the applicant had been administered a complete preemployment polygraph examination (Ash, 1973; Ash, 1975;

Putnam, 1978; Silverberg, 1980). Concurring data indicated that an overwhelming majority of the applicants held a positive feeling for the method, whereas only a very small minority expressed concerns regarding invasions of privacy. These findings would be difficult to explain if one assumes that unethical practices abound in the administration of preemployment examinations. Although one may argue that the number of polygraph examiners in these studies was small and therefore the results may not be easily generalized to the profession as a whole, it must be noted that at the present there are no studies which contradict these results.

The present study was designed to examine three main areas of preemployment polygraphy:

1. What are the characteristics of the preemployment polygraph examination used in the field?

2. At what frequency to ethical violations occur in this approach?

3. How are applicants responding to this method of screening?

In an attempt to assess preemployment polygraphy, the authors surveyed those polygraphists who perform the examinations. A random selection of members from the American Polygraph Association (APA) were mailed a survey form which listed a number of questions concerning professional and business practices. It was anticipated that a representative profile of polygraph examiner practices and applicant reactions could be constructed which would shed some light onto this rarely-explored area.

Method

A survey sheet of 20 questions was mailed to each of 100 members of the APA. The selection was random, with each polygraphist meeting the following criteria.

1. Each polygraphist must be in private practice. Law enforcement or government polygraphists were excluded from this study.

2. Each polygraphist must practice in the United States.

3. Each polygraphist must be a full member of the APA. No other class of membership was considered.

There was no distinction as to sex, age, geographic area, or state licensure.

The cover letter with the survey explained the nature of the study and emphasized that all responses would be kept strictly anonymous. A pre-addressed envelope with return postage was provided.

The following questions were listed on the survey.

1. Do you administer preemployment testing? Y N
   If "Yes", please complete the questionnaire.
   If "No", please send this questionnaire in the return mail.

2. How many years have you been administering preemployment polygraph testing in the private sector? _____

3. How many preemployment examinations have you administered in the last five years? _____

4. How many months are your preemployment files kept? _____

5. Do you ask questions relating to union activities during any part of the preemployment examination? Y N

6. What percentage of applicants appearing to take a preemployment test voluntarily terminate the test before its completion? _____
Please list reasons given in order of predominance.

7. How many minutes does it take you to complete one average preemployment polygraph examination? _____

8. How many minutes of your preemployment examination is spent on pretest interview? _____

9. On which of the following do you rate the applicant?
   a. pass-fail
   b. deceptive-nondeceptive
   c. recommended-not recommended
   d. other: _____

10. What is your overall pass, nondeceptive, or recommended rate? _____

11. Do you routinely verbally release to the employer the information obtained during the pretest and/or post-test interview? Y N

12. Do you routinely release, in writing, to the employer the information obtained during the pretest and/or post-test interview? Y N

13. How many times is each question read to the applicant during the testing phase of the examination? _____

14. What percentage of those applicants appearing to take a preemployment polygraph examination refuse to answer your questions? _____

15. Do you offer applicants an opportunity to explain any difficulties they may have had to any questions given during the testing phase of the examination? Y N

16. Do you ask questions relating to sexual activities during any part of the preemployment examination of non-police applicants? Y N

17. How many times have your client-companies been sued over preemployment examinations administered by you? _____

18. How many times have you been sued over preemployment examinations administered by yourself? _____

19. Do you consider an applicant disqualified if he or she has stolen, irrespective of the magnitude of the theft? Y N

20. Do you actively support your state association's legislative efforts?
Y N

Only those responding "Yes" to question 1 were used in the construction of the profile in this study.

Results

Of the 100 mailed surveys, nine were returned as undeliverable by the U.S. Postal Service. A total of 48 surveys were returned in the pre-addressed envelopes. Two respondents had not filled out the survey, and five respondents (10.4% of all returned responses) reportedly did not perform preemployment polygraph examinations. The remaining 41 completed survey forms were used in the construction of this profile. Some respondents did not answer all 20 of the survey questions.

Question 2. The mean number of years for performing preemployment testing in this sample was 10.3 years. The standard deviation was 1.3 years, and the range was 2 to 33 years. (See fig. 1)

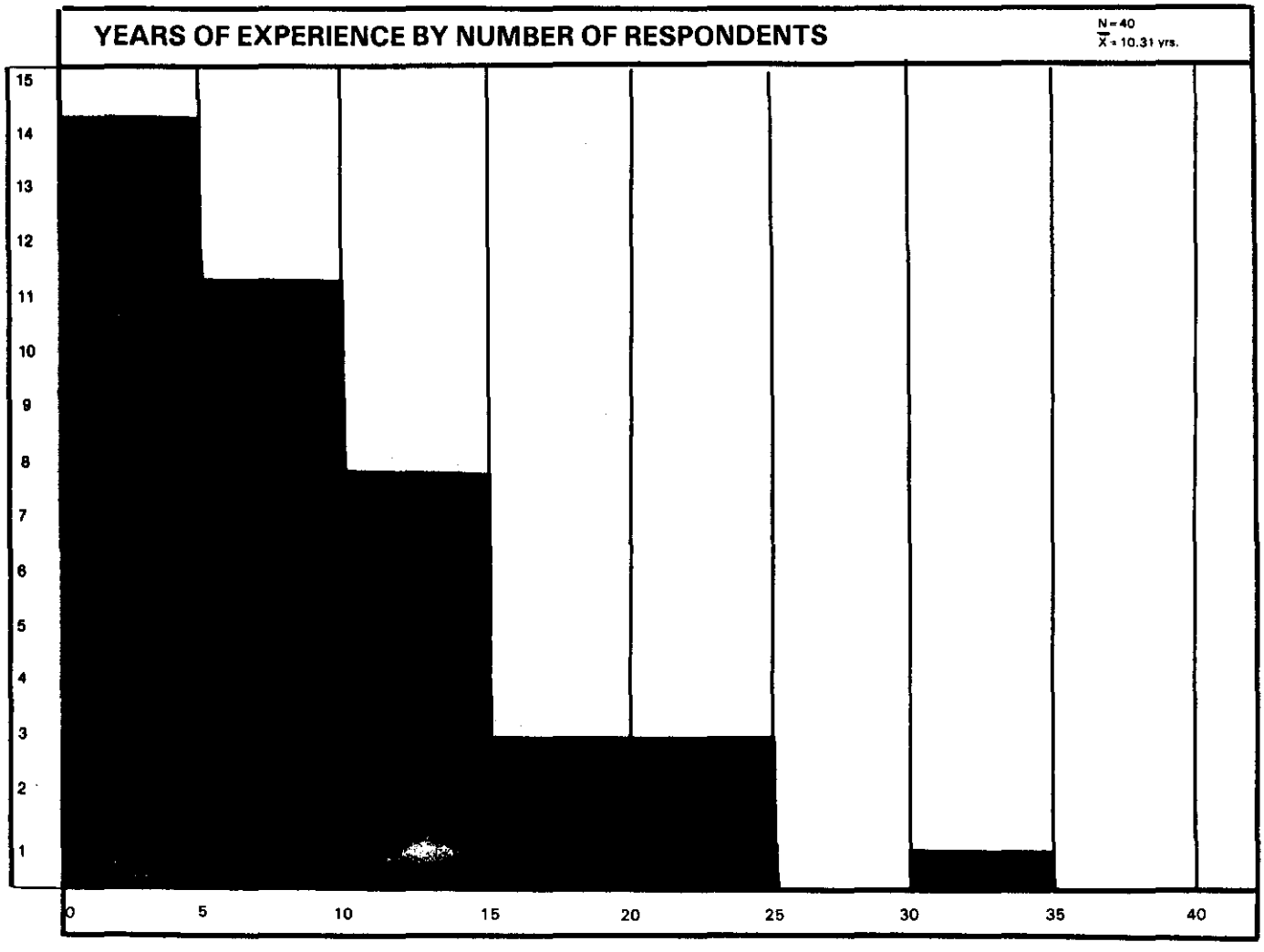

Fig. 1

Question 3. The mean number of preemployment examinations administered by these examiners in the previous 5 years was 3177.6, with a range of 100 to 10,000 examinations conducted. Variability was found to be remarkably high, as the standard deviation was 2481.7 tests. (See fig. 2).

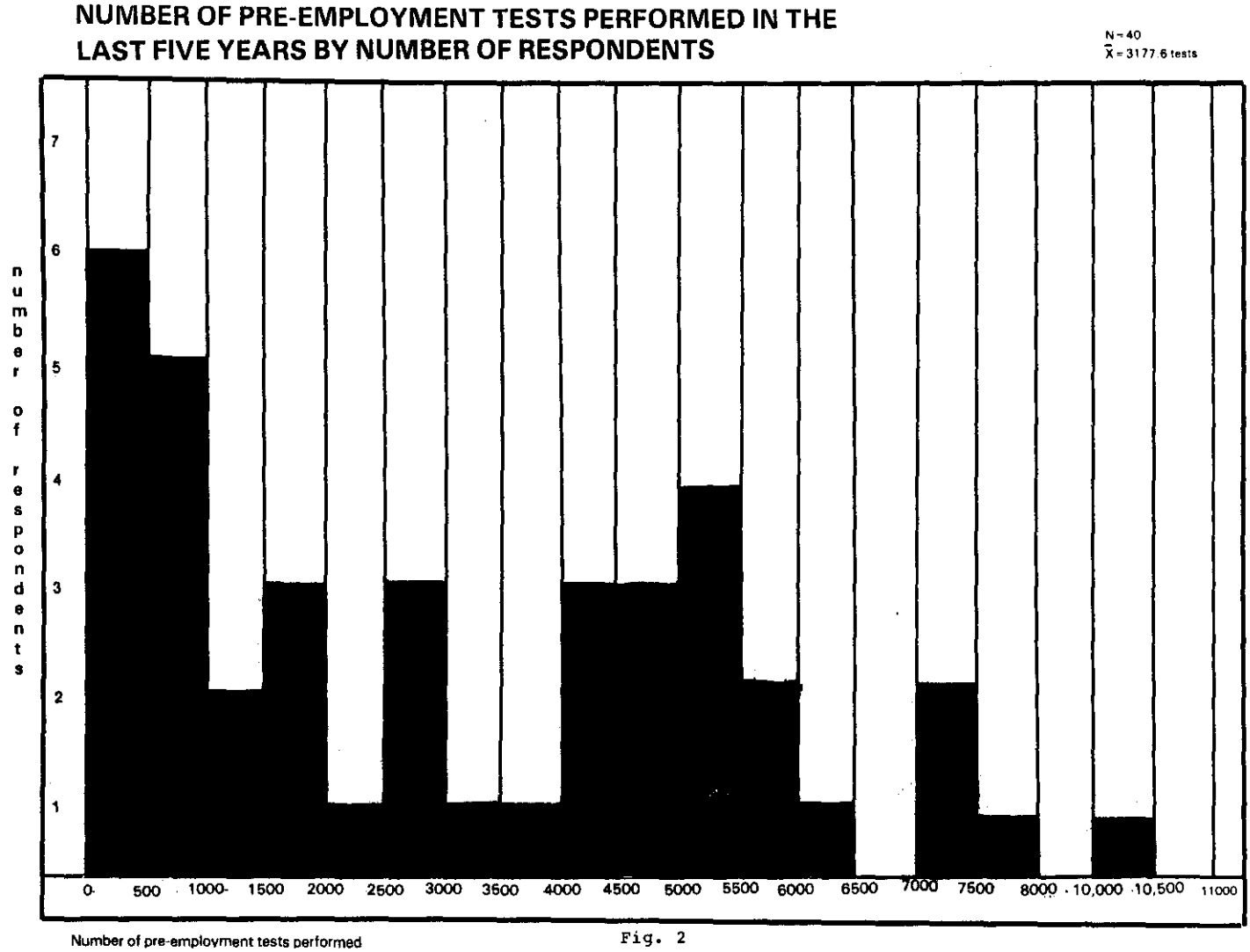

Fig. 2

Question 4. Preemployment files were kept by the examiners surveyed from 12 months to permanently. The average time was 35.7 months when the three "permanently" responses were excluded from the computation.

Question 5. The 41 respondents unanimously answered "No" concerning the issue of inquiries into union activities.

Question 6. The percentage of applicants terminating the polygraph examinations before completion was 0.5%. The range was from 0.0% to 5.0%. There were 29 respondents (72.9%) who reported a 0.0% premature termination.

There was a variety of reasons offered by applicants for terminating their examinations, and due to the variety, the reasons were not treated statistically. In order of frequency the applicants' reasons were: illegal drug activities, perceived invasions of privacy, convictions, thefts, participation in unsolved crimes, lack of time to complete the procedure, did not want to sign the consent form, became physically ill, nonspecific nervousness, and several other reasons occurring at low frequency or only once.

Question 7. The mean time for the completion of a preemployment polygraph examination was 59.4 minutes, with a range of 30 to 135 minutes. The standard deviations for this measure was 20.9 minutes. (See fig. 3).

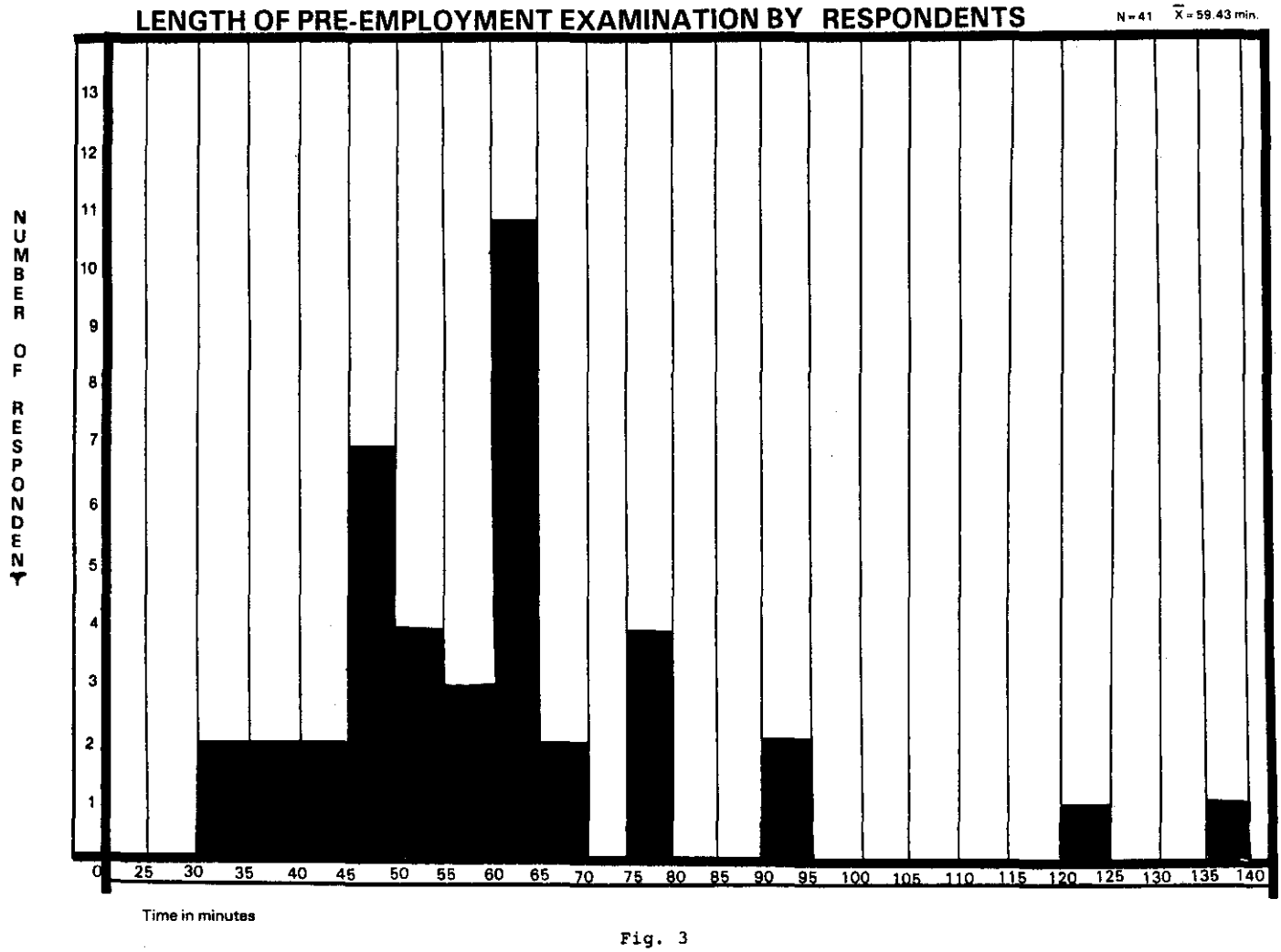

Fig. 3

Question 8. The pretest interview among these respondents had a mean time of 33.5 minutes, a range of 15 to 90 minutes and a standard deviation of 12.8 minutes. (See fig. 4).

The average percentage of examination invested in pretest interviewing was 57.7%. Pretest lengths and examination lengths were moderately correlated (r = .67).

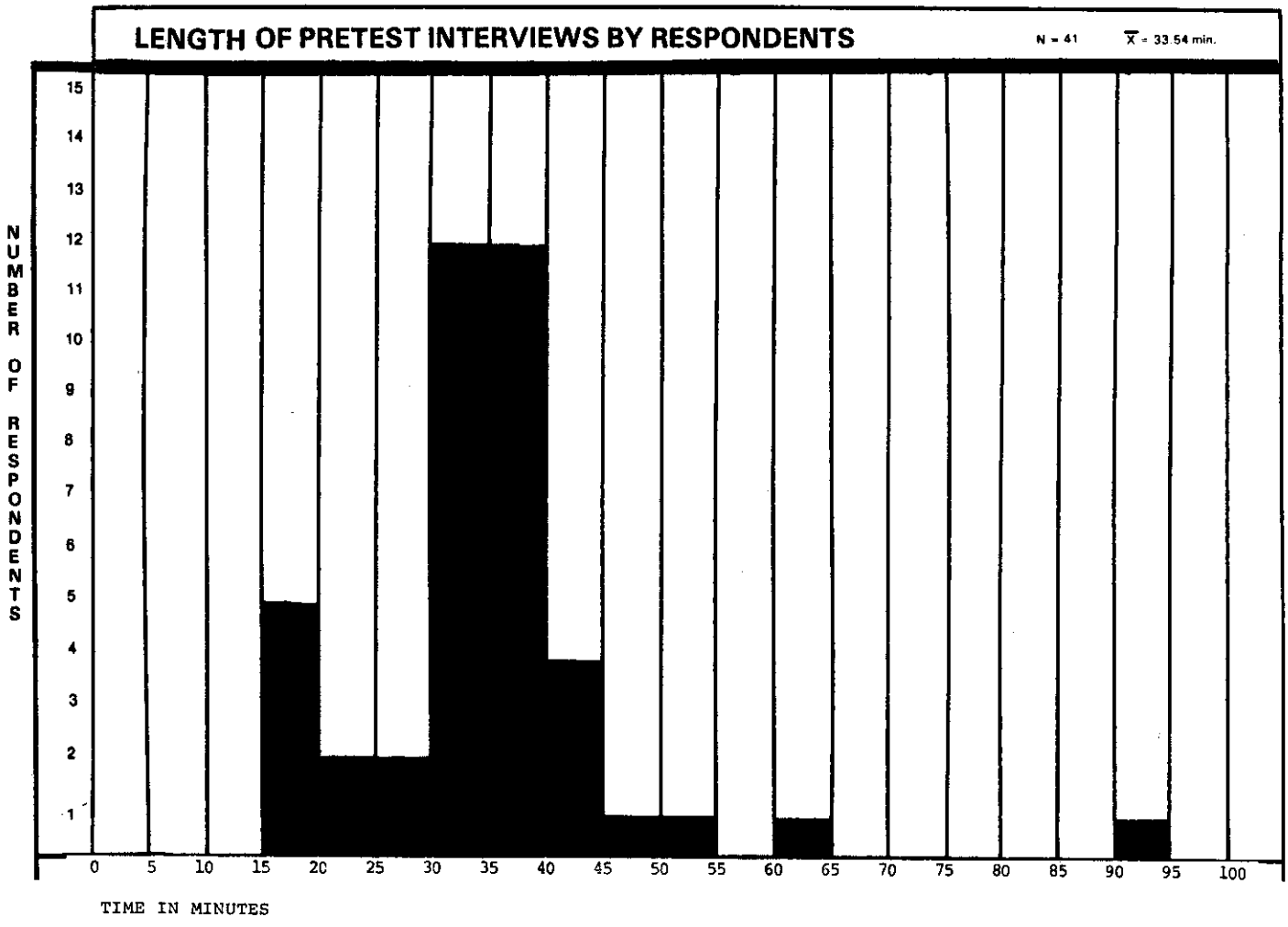

Fig. 4

Question 9. There were no respondents using the pass-fail rating system on applicants. Some examiners reported using two or more rating systems together. A total of 24 examiners reported using the deceptive-nondeceptive rating, 16 used the recommended-non-recommended rating, and 4 used other or no ratings.

Question 10. The respondents collectively had a mean nondeceptive or recommended rate of 67.6%. The standard deviation was 20.0, and individual answers ranged from 10% to 97%. (See fig. 5).

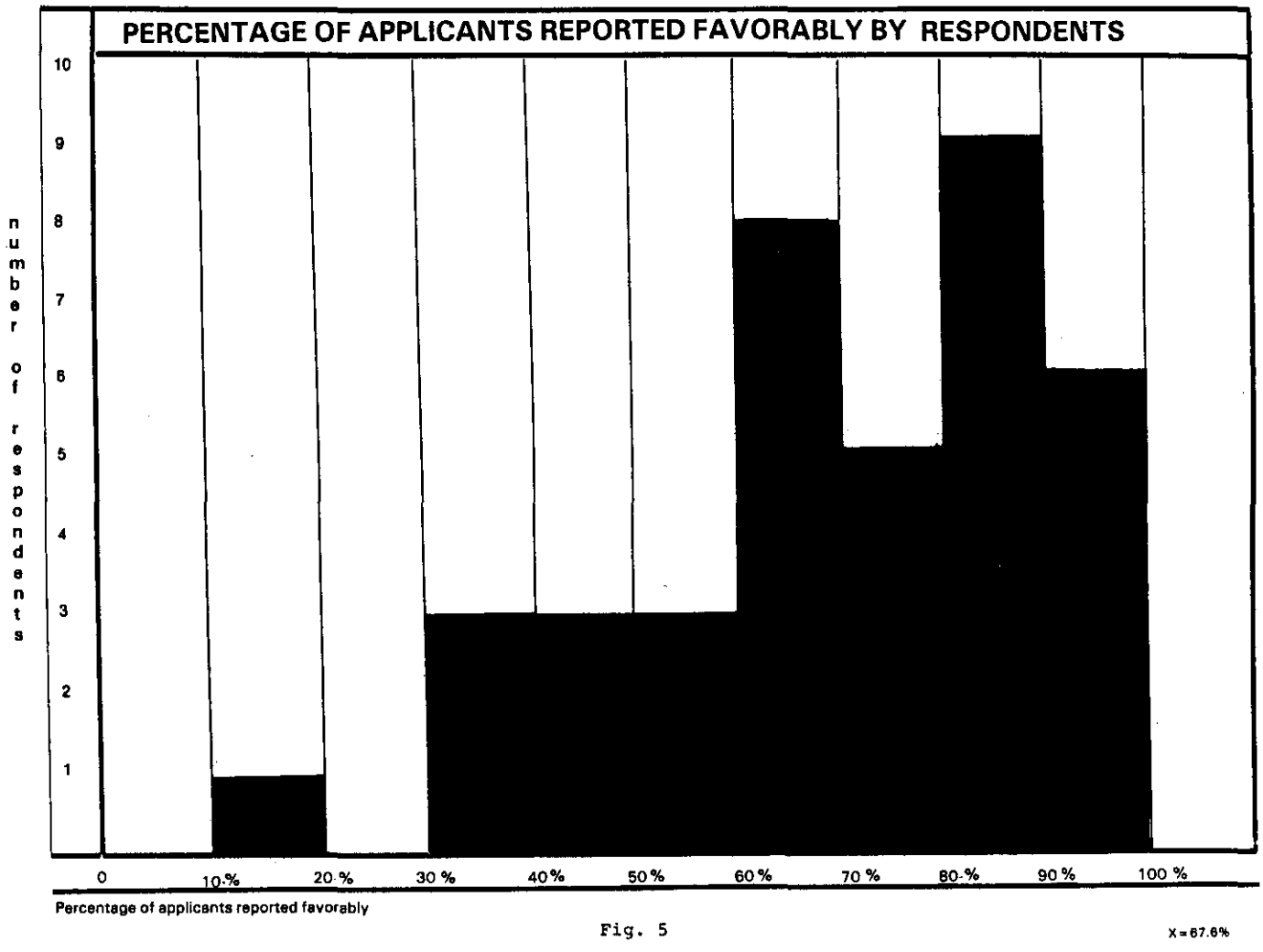

Fig. 5

Question 11. A total of 35 respondents (85.4%) routinely release the examination information to the client verbally, while the remainder do not.

Question 12. A total of 34 respondents (82.9%) routinely release the examination information to the client in writing, and the remainder do not.

Question 13. Four examiners (9.8%) reported that each question was presented to the applicant only once during the testing phase of the

examination. Another 32 examiners (78.0%) reportedly administered the test questions at least twice, and remaining 5 examiners (12.2%) gave at least three presentations of each test question.

Question 14. The total percentage of applicants refusing to answer questions among these examiners was 0.4%, with a range of 0.0% to 5.0%. There were 28 examiners (70.0%) reporting a 0.0% refusal rate.

Question 15. There were 41 "yes" answers out of 41 respondents regarding the examiners offering applicants an opportunity to explain difficulties they may have had with the test questions.

Question 16. There were 41 "No" answers regarding the examiners inquiring into the sexual activities of non-police applicants.

Question 17. To the knowledge of each of these respondents, only 3 client-companies had ever been sued over preemployment examinations administered by the respondents themselves. These law suits had occurred to one client each by 3 separate examiners. The nature of the suits was not mentioned, nor was the disposition of the cases.

Question 18. None of the polygraphists reported ever being sued regarding preemployment polygraph testing.

Question 19. Thirty-eight (92.7%) of the examiners answered, "No" to this question. No examiner reported disqualifying an applicant on the sole basis of a single reported incident of theft. Three provided no answer.

Question 20. To the question of active participation in state legislative matters, 6 (14.6%) answered, "No", and 34 (82.9%) answered, "Yes". One respondent did not answer.

Discussion

As there is little research concerning preemployment polygraphy, aspects of the present study addressing the basic characteristics of the procedure become quite significant since they are a marked departure from views held by some noted writers in the field. For example, examination lengths from the instant findings are markedly longer than has been suggested. Also, the finding that most applicants are rated as deceptive or nondeceptive would indicate that the ultimate decision to hire an applicant is reserved for those who receive the test results, and not made by the examiners themselves. The role of the polygraph examiner asks for further clarification by subsequent research.

A main concern of this study has been the conduct of the polygraph examiners themselves. The data suggest that unethical practices and invasions of privacy in the administration of preemployment polygraph examinations may not be pervasive throughout the industry, and claims to the contrary have not been supported. In fact, this sampling of the field indicates the procedure is performed in an ethical manner and without disregard for the individual or his privacy. The patterns observed in the survey data create an image of preemployment polygraph screening which contrasts strikingly in many respects to an image often popularized in the press.

It is the personal experience of the authors, as well as a number of their colleagues, that many applicants express the fear that the examination procedure is so constrained and rigid that it does not allow for explanations of answers, a concern that may be based upon the applicant's ignorance of the pretest interview. Not only did every respondent in this survey perform a pretest interview, but this interview accounted for an average of 57.7% of the examination length. Each polygraphists also allotted time for applicants to discuss problems experienced in the testing phase of the examination. The existence of this interview time, while common knowledge in the field, is not as widely discussed outside of the field, possibly lending to the types of concerns seen in many applicants.

Some critics, as previously mentioned, have asserted that most preemployment examinations are completed in a timeframe so short as to preclude valid test results. While there is some discussion on what constitutes a proper polygraph exmaination length, the 59.4-minute average found here can surely be considered more appropriate for proper examination procedure than the timeframe reported in some previous speculations. One reason for the high variability in the lengths of these screenings could be the amount of information being verified, an area of research not explored in this study. It may be found that the limits of timeframe are linked to quantity of material covered, and that gross statements of proper examination lengths are meaningless by themselves.

One of the best gauges of a polygraphist's conduct can be found in the observations of applicant reactions. One would reasonably expect an applicant to express dissatisfaction with the polygraph screening by discontinuing an examination in progress, or by refusing to cooperate with certain portions of the procedure. There was an exceptionally low rate of these behaviors reported, leading to two equally plausible conclusions. Either the screenings were not offensive enough to elicit these actions, or applicants cooperated for fear of being disqualified even though the method was offensive.

Even if one ignores the substantial data from attitude surveys showing applicants are not offended by preemployment polygraph screenings, one would still get a hint from the present data that this was the case. No surveyed polygraphists in this study had ever been subjected to a lawsuit over these screenings. This can be considered surprising, not only since nearly one-third of the applicants had received an unfavorable rating by the polygraphists, but by the sheer volume of applicants screened by the polygraphists in this sample.

Assuming a consistency in the rate for examinations given across years, the 41 examiners in this sample may have conducted a collective total of 284,452 preemployment polygraph examinations in their professional lives. A total lack of lawsuits from this experience compares very favorably to other professionals such as physicians. Postulating further, about 92,162 applicants would have received an unfavorable report from the polygraphists. With such a large number of applicants who had not fared well in the polygraph screening that none had brought civil or legal action against the testers is perhaps another indicator that the method is satisfactory to the applicants. The present phenomenon does not support the arguments that the polygraph experience is unpleasant or unfair, and suggests that the "coercion" element may have been overstated.

The authors are fully aware of the limitations of survey approaches in gathering information and realize that generalizations to the polygraph industry as a whole must be made carefully. Though answers to questions concerning ethical behavior of the respondents would have been predicted by the applicant attitudes measured by other researchers, it is also possible that the present data are flawed by the nature of survey methodology. It is possible that those respondents who were behaving responsibly were more likely to participate in the survey, while those whose conduct was less ethical did not return the questionnaires. Practical considerations, however, make other forms of investigative inquiry in this area difficult, at best.

In conclusion, this study has provided some fundamental data about polygraphy and polygraphists in the preemployment setting, but the answers have given rise to many other questions. Fertile areas of research could include investigations into the topics discussed during preemployment polygraph examinations, qualifications of the polygraphists, types of techniques used, and the practices of non-APA polygraphists. More inquiry is necessary to base judgements on the value and appropriateness of preemployment polygraphy, so ultimately decisions can be made upon verifiable fact instead of conjecture.

References

Ash, P., Survey of attitudes on the polygraph, Polygraph, 1983, 2, 200-223.

Ash, P., Survey of subjects, attorneys and scientists, in N. Ansley (Ed) Legal Admissibility of the Polygraph, Springfield, Ill: Charles C Thomas, 1975.

Correa, E.I., and Adams, H.E., The validity of the preemployment polygraph examination and the effects of motivation, Polygraph, 1981, 10, (3), 143-155.

Lykken, D.T., A Tremor in the Blood, 1981, p. 144.

Lykken, D.T., Psychology and the lie detector industry, American Psychologist, 1974, 29, 725-739.

Putnam, R.L., Polygraph screening of police applicants: Necessity or abuse?, Polygraph, 1978, 7, (4) 257-262.

Raskin, D.C., Comparison of polygraph examinations in criminal justice and personnel selection, Polygraph, 1980, 9, (1) 3-16.

Silverberg, B.A., Attitudes of job applicants and employees toward the polygraph, Polygraph, 1980, 9, 162-169.

U.S. Congress. House Committee on Education and Labor, Subcommittee on Labor-Management Relations. Pressure in Today's Workplaces. 96th Congress, 2d Session, Washington, D.C., Government Printing Office, 1981.

* * * * * *

RATIONALE FOR SCORING

By

James R. Wygant

Although the practice of numerically scoring polygraph charts has apparently increased among examiners in recent years as more schools have incorporated scoring into their instruction, there are still many who believe that scoring is an unnecessary waste of time. Moreover, some have expressed the concern that scoring is a crutch for examiners who lack the courage to make a decision based upon their own best judgment.

At the August 1980 American Polygraph Association Seminar in Washington, D.C., John Reid, who had by then probably contributed more to polygraph development than anyone else, voiced his personal distrust and dislike of scoring. And yet, two of the most respected schools in the country, the Backster School and the U.S. Army Military Police School (USAMPS) have taught scoring for several years as a practice that should be routinely applied.

Unfortunately for the advocates of scoring, there has been very little said about two of the more important considerations: What is it intended to accomplish; and what method is best?

Stripping away all of the misplaced concern that scoring requires examiners to relinquish personal judgment to an unthinking system of numbers, we must recognize that numerical scoring of polygraph charts is nothing more than a record keeping system. At its heart, regardless of what method is used, numerical scoring is simply a means for an exmainer to keep track of what he observes on the charts, so that by the time he has gotten to the end of the last chart he has a means of recalling what judgments he made at the beginning of the first chart. It is a method of imposing uniformity of chart interpretation from the beginning to the end of an examination, and of preventing excessive reliance on isolated responses.

Keeping this purpose in mind, it becomes apparent that there is then no perfect system of scoring. Certainly the oldest system (and probably the most widely used) was that developed by Cleve Backster in 1963 as a training aid. It contains the essential elements of any scoring system:

1) separate evaluation of breathing, electrodermal and cardio tracings;

2) a means of reflecting in the score the difference between a truthful response and a deceptive response on a relevant question; and

3) "cutoffs" or minimum scores necessary to support a conclusion, as

---

The author is in private practice in Milwaukie, Oregon, is a graduate of the Backster School and the Raskin Workshop on Detection of Deception and is the author of five prior articles in Polygraph.

opposed to lesser scores which would be regarded as inconclusive.

Backster's system provides for application of scores ranging from 0 to +3 or -3 on each of the three physiological parameters measured, with 0 meaning no discernable difference between the relevant question tracing and that of the control to which it is compared. Backster developed a relatively elaborate set of rules for assigning scores of +1, +2 or +3 for comparisons indicating truthfulness, and -2, -2 or -3 for comparisons indicating deception.

In simplest terms, the size of the absolute number (1, 2 or 3) is intended to indicate the size of the apparent difference between relevant and control reactions. The individual numbers, pluses and minuses, are then added together for a final total score. A sufficiently high plus score would indicate truthfulness, while a sufficiently high minus score would indicate deception. If the score is below a certain plus or minus level it is considered too low to permit a conclusive determination of either truthfulness or deception.

USAMPS teaches essentially the same system,[1] although they have chosen to stay with Backster's original recommendations for choosing control-relevant pairs for comparison, while Backster has modified his own method of determining which pair of questions to score.

There are a number of other systems for numerically scoring polygraph charts. Richard Arther devised a system that employed a series of check marks that substituted size and number of check marks for numbers. And since plus and minus signs don't make sense with check marks, his system recommended computing the plus or minus equivalent at the end of each chart, rather than while examining each tracing on a particular question.

Examiners at the Portland Police Bureau have used a system for several years that does not employ any plus or minus signs with the numbers,[2] Instead, they assign a separate score for each control question and each relevant question, the score indicating the size of any reaction on that question. Since one examiner there only assigns a score of "1" or "0", simply indicating presence or lack of reaction, his system is very similar to that of Arther's.

At the Oregon State Police several years ago, two examiners there devised a rather cumbersome system of basing a score upon counted chart increments.[3] This "raw score" approach is actually what a computer might do if a program were ever devised to permit computerized reading of charts, although manual application of this procedure was quite tedious.

Ray Weir, past American Polygraph Association president and long-time advocate of relevant-irrelevant(R/I) testing, tells of numerical scoring system that he and Norman Ansley devised for use with R/I tests, although he admits that he does not use it himself.[4]

Undoubtedly there are other systems that have been devised or adapted by examiners anxious to establish some relatively objective method of assisting chart evaluation. This should not suggest that the variety of techniques invalidates any of them. If we understand that the purpose of any such system is only to keep track of what our limited memories may not

be able to accurately accumulate over the course of several charts, then any system which accomplishes that is preferable to no system at all.

In an examination in which three charts are obtained with three relevant questions and three controls, an examiner who will base his opinion upon consideration of breathing, electrodermal response and cardio response will have to make 18 judgments on each chart or a total of 54 judgments over the entire examination. In other words, a judgment must be made regarding reaction or lack of reaction in each parameter for each control and each relevant question on each chart. That is a lot of information for anyone to try to accumulate mentally, without any noteworthy process.

Mild disputes have arisen from time to time between examiners who differ in what they accept as "cutoffs" for findings of truthfulness or deception. A "cutoff" is the minimum score permitting a conclusion. Many fail to recognize that cutoff scores are always arbitrary. There is nothing sacred about +6 or -6, the USAMPS cutoff, or +9 and -9, one level of Backster's cutoffs, or +3 and -3, sometimes used when evaluating a single question (rather than combining question scores with single issue questions).

Whether a polygraph examiner uses scoring or not, he must always recognize a simple relationship between inconclusive results and accuracy. It is this: As fewer inconclusive results are obtained, overall accuracy declines. This must be true because for any given number of tests there will be some which do not produce results as clear as others. If an examiner made decisions only in those tests which produced the clearest results, his or her overall accuracy should be quite high, because the supporting raw data was the clearest. However, the inconclusive rate would also be high. As the examiner begins to make decisions based upon data which is less clear (less supportive of the decision) he is likely to begin making errors.

There is a point at which any examiner must recognize that the data on a chart is not sufficiently clear to support a decision. That point might be reached when the examiner can no longer be confident that another examiner reading the same charts would reach the same conclusion. That then becomes the cutoff point between a conclusion and an inconclusive finding.

To translate that cutoff point to numbers may require that an examiner evlaute his own application of whatever scoring system he is using. If an examiner consistently obtains low numbers in applying scoring to charts, he may find that his inconclusive rate is unacceptably high and that the numbers do not accurately reflect his own independent judgment of results. Some adjustment in the cutoff level might be appropriate. It must only be remembered that raising cutoffs will increase the number of inconclusive results and may improve accuracy slightly, while lowering cutoffs will reduce the number of inconclusive results and, beyond a certain point, could cause significant deterioration of overall accuracy.

Resistance to scoring based upon the concern that it removes the personal judgment of the examiner from the process is, of course, absurd. Since the scores are arrived at only in the exercise of the examiner's

evaluation of his charts, the examiner remains intimately involved with the determination. And, not surprisingly, there is some evidence to indicate that scoring does improve overall accuracy. The 1976 study by Raskin, Barland and Podlesny for the Department of Justice included a portion in which examiners evaluated charts for which there were verified results. It was reported that "...the seven examiners who employed numerical scoring of the charts were significantly more accurate in their decisions (99%), than the 18 examiners who did not use numerical scoring (88%)."

It seems reasonable, assuming the fallibility of unaided memory, that any method of recording judgments while they are being made might be superior to a process that tolerates imperfect memory.

Notes

[1] Decker, R., presentation at Northwest Polygraph Examiners Seminar, Otter Rock, Oregon, June 1979.

[2] Maunu, D., Portland Police Bureau, personal conversation.

[3] Latin, B., Oregon State Police, personal conversation.

[4] Weir, R., presentation at Northwest Polygraph Examiners Seminar, Kalispell, Montana, June 1984.

Bibliography

Arther, R.O., Known Lie Test Chart Analysis, Journal of Polygraph Science, XI, (1) July-August 1976.

Backster, C., Standardized Polygraph Notepack and Technique Guide. New York: Backster Research Foundation, 1969 & 1979.

Backster, C., Letter to all graduates of Backster School, Feb. 15, 1979.

Raskin, D.C., Barland, G.H. & Podlesny, J.A., Validity and Reliability of Detection of Deception, Final Report. Salt Lake City, Utah: University of Utah, Department of Psychology, August 1976, pp. 31-34.

Weaver, R.S., Numerical Evaluation of Polygraph Charts: Evolution and Comparison of Three Major Systems, Polygraph, IX, (2) June 1980, 94-108.

* * * * * *

INTERVIEW WITH LEMOYNE SNYDER

By

Irene Fay-Long

Think about what it was like in the year 1933. What was it like at the World's Fair in Chicago? What types of exhibits would one have encountered? What preview of the future would have most impressed and interested you? If you were Dr. LeMoyne Snyder it would have been the display of an instrument by a young man named Leonarde Keeler. Dr. Snyder's fascination focused on an instrument that recorded different physiological responses, and by interpreting responses to spoken stimuli, it was alleged that truth or deception could be determined. Being both a doctor of medicine and an attorney, the possibilities fo such an instrument were obvious, and being closely associated with the Michigan State Police, he felt the law enforcement facet of such an invention could be invaluable.

I had the pleasure of meeting Dr. Snyder on January 9, 1984, at his home in Paradise, California. The meeting was the result of correspondence between Jim Adams and Dr. Snyder. Jim, a polygraph examiner and colleague, was greatly interested in Dr. Snyder, and his association in collaboration with Erle Stanley Gardner in "The Court of Last Resort." After reading articles authored by Dr. Snyder, and his book Homicide Investigation, Jim requested an interview. Along with another examiner, Randy Ontiveras, we not only interviewed Dr. Snyder, but were fortunate enough to preserve our conversation on videotape.

Dr. Snyder began by telling us he was not a polygraph examiner; "Never had an instrument, never ran a test." It was precisely this "one step removed" experience with polygraph that made Dr. Snyder's association with the science more dramatic. Our long, leisurely and informative conversation lasted for the better part of the day, and comprised stories, recollections, anecdotes, and intimate details of Dr. Snyder's experience, and his varied associations with polygraph, examiners, and case histories. Following his introduction to Leonarde Keeler, the two men became fast friends. Their friendship lasted for many years and endured as a mutually rewarding relationship until Keeler's death. Dr. Snyder came away from the World's Fair with a new friend, and a respect and interest in polygraph that endures to this day.

Within Dr. Snyder's den, there is one entire wall lined with books, among the titles are many on investigations, criminology, medicine, and polygraph science. But the real library is within Dr. Snyder's mind. He regaled us with stories, yet we came away knowing that he had barely scratched the surface of his experience.

Reprinted from the National Academy of Lady Polygraphists Newsletter, May/June 1984 with permission of the author and Editor. The author is an elected member of the NALP Board of Directors and Editor of their newsletter. She is in private practice with Long and Associates, Inc., P.O. Box 1335, Pacifica, California 94044.

As a direct result of Dr. Snyder's impression with Leonarde Keeler and his polygraph instrument, the Michigan State Police was one of the first law enforcement agencies to employ the use of the instrument in criminal investigation. Dr. Snyder related that arguing for the purchase of the instrument had to be more than convincing, it was mid-depression, and a large expenditure of cash was an uncommon event. However, once Dr. Snyder presented his case, and the polygraph was purchased, it became a cause celebre. When word leaked out that an examination was to be conducted, great numbers of curious people would crowd to the designated location, in hopes of witnessing the event. It soon became obvious, from the developing carnival atmosphere, that future examinations would have to be conducted with less advance publicity and fanfare.

Another long lasting association of Dr. Snyder's involved polygraph examination. Erle Stanley Gardner based his "Court of Last Resort" on informal introductions of facts, disputing criminal convictions. Gardner would undertake to help exonerate persons who had been tried and convicted, when the circumstances dictated that there was question regarding the guilt of the party. Dr. Snyder worked on many of those appeals. With the cooperation of prison authorities, the convicted felons would present their evidence, in hopes of contradicting their Conviction, they would then be scheduled to talk with Dr. Snyder. He would be accompanied by a polygraph examiner, and whenever the case appeared to have merit, the prisoner would be administered a polygraph examination. Upon passing the test, the case would usually be appealed. Although many people passed the test, the sheer number of cases made it impossible to appeal them all. It is Dr. Snyder's one regret that the following rule of thumb became a necessity; if the innocent party had a relatively good prior record, an appeal would usually be filed. Those convicted previously of equally serious, or similar crimes, could not be accomodated. The feeling was that the risk was too great, and the number of cases too vast to chance putting a potential repeat offender back on the street.

Dr. Snyder's stories of specific cases were each better than the last. But aside from case facts and successful investigations, one fact was repeated several times. The polygraph's greatest contribution, in Dr. Snyder's opinion, was the virtual elimination of the "third degree". Dr. Snyder insists that the polygraph examination relieved investigators of the overwhelming pressure to solve a case by assigning the guilt to the first unfortunate suspect. Dr. Snyder explained that physical brutality was quite common within police organizations, and many a confession was elicited under duress. There are documented cases of innocent parties being wrongfully convicted on the basis of a forced confession. Following the introduction of polygraph in his home state of Michigan, Dr. Snyder recalls specific cases where initially suspected persons were exonerated through polygraph examination, and thus the investigation was continued, often times successfuly leading the police to the truly guilty party. By way of illustration, Dr. Snyder related an incident where he was called to examine the mutilated body of a woman. Shortly thereafter the police informed him that the murderer had confessed to the crime. Dr. Snyder decided to question the suspect, and was introduced to an emotionally disturbed, thirteen-year-old male. Dr. Snyder, being a medical examiner in the case, knew the case facts contradicted the boy's confession. He requested that the boy be administered a polygraph examination, after which it was clear that the boy had not committed the crime. Dr. Snyder asked

the suspect why he had confessed to the crime, and the boy answered "The police told me to." It was learned that the boy had been interrogated by several police officers, who were convinced that the boy had committed the murder, and a confession ensued. Unless the boy was administered the examination, it is possible that the investigation would have ended with the boy's confession, however in this case the investigation continued.

Dr. Snyder appeared more relaxed when the videotaping was completed. His wife, Louise, had sat in on the interview and once the camera was shut off, less formal conversation ensued. More stories were told, some started by Dr. Snyder, with details provided by his wife, others were introduced and embellished in reverse order. It is apparent that Dr. Snyder has led an enviable professional life, and by sharing it with me and my associates, he added one more accomplishment to his already formidable list of feats. He gave us a glimpse into our past, a sense of history and a feeling for what it must have been like when our profession was just getting started. He also provided us with an afternoon of sheer pleasure that will not soon be surpassed.

* * * * * *

Note: In January of 1984 I received a copy of the first volume of the American Polygraph Association (APA) Newsletter, printed in 1966. Listed among the committee members is Dr. LeMoyne Snyder, under the Judicial Miscarriage Appeals committee. He is joined by such notables as Erle Stanley Gardner, Cleve Backster and Lincoln Zonn.

* * * * * *

THE SIGNIFICANCE OF TEARS IN LIE DETECTION

By

Kathleen M. Zovnic

Introduction

The purpose of this paper is to analyze the presence of tears and their significance as a behavior symptom in lie detection. There are four categories of tears: (1) tears which cleanse and lubricate the eyes; (2) reflex tears which flow when the eye is exposed to excessive light, wind or other common irritants; (3) continuous tears which provide a liquid film over the eyes; and (4) psychogenic tears which are tears in response to an emotional state. Psychogenic tears express sorrow, guilt, remorse, joy, pain, anger, sympathy, embarrassment, and other emotions unique to man.(Bothelo, 1964). Because of their relationship to emotional states, psychogenic tears are of importance to the detection of deception.

In order to examine the meaning of tears, it may be helpful to understand the basic physiology involved with lacrimation (crying). The following section will illustrate the process of lacrimation within the human organism, thereby suggesting the importance of this knowledge for polygraph examiners.

Also, to explore the significance ot tears as a behavior symptom, staff examiners at John E. Reid and Associates were interviewed. Through their observations and analysis, along with some basic psychological theory, this paper will provide the reader with some guidelines to utilize when interpreting and weighing the significance of tears in lie detection.

Physiological Aspects of Lacrimation

Human tears are formed through a group of glands named the lacrimal system. The lacrimal glands are exocrine glands; glands which secrete only the body surface through ducts. Like all exocrine glands, lacrimal glands are innervated by the autonomic nervous system.

The autonomic nervous system is activated by centers located in the spinal cord, brain stem, and hypothalamus. This system aids in the control of arterial pressure, gastrointestinal motility and secretion, urinary output, sweating, body temperature, secretion of exocrine glands, and many other activities, some of which are controlled almost entirely by this system and some only partly. The autonomic nervous system has two divisions, the parasympathetic and the sympathetic. These two divisions transmit autonomic impulses to the organs and glands within the body.

Sympathetic stimulation is generated through the thoracic and lumbar regions of the spinal cord and is basically associated with contact emotions, such as anger or fear. Parasympathetic stimulation outflow takes place in the cranial and sacral regions of the central nervous system. Parasympathetic stimulation of the lacrimal glands is associated with emphathic emotions such as pity, sorrow, grief, remorse, guilt, or

frustration. Empathetic or withdrawal emotions are quite dissimilar to contact emotions physiologically, in that the contact emotions stimulate a fight/flight response in the organism. With respect to the detection of deception, the examiner is primarily concerned with emotional sources of tears. From the present research dealing with lacrimal glands, it has been shown that the secretion of psychogenic tears relates to parasympathetic stimulation.

When evaluating net effects on the body through autonomic innervation, it is important to think in terms of the interrelationship between parasympathetic and sympathetic stimulation. These two systems never act independently of each other, but are brought into a correlated activity in varying degrees. Psychogenic tears resulting from parasympathetic stimulation of the lacrimal glands are in response to sympathetic stimulation within the organism, commonly referred to as parasympathetic rebounding. Psychogenic tears may contain chemical transmitters produced by the body in the time of stress or fight/flight situations, collectively referred to as catecholomines. This interaction demonstrates the link between the sympathetic and parasympathetic outflow which leads to lacrimation. One of the purposes of psychogenic tears is to release stress by-products, such as catecholomines, generated by sympathetic stimulation. In other words, the lacrimal glands serve as an outlet for the body to flush out the excess adrenaline and noradrenaline generated during sympathetic stimulation. In order to maintain homeostasis, the parasympathetic division of the autonomic nervous system stimulates the lacrimal glands, thus resulting in a secretion of tears from the gland and thereby releasing stress related products. Hence, lacrimation is one mechanism through which homeostates is maintained.

Psychological Aspects of Lacrimation

After reviewing the physiological aspects of lacrimation one might conclude that it is inevitable that psychogenic tears will flow to release the excess catecholmines produced by your body during sympathetic stimulation. This conclusion would lead to the belief that the majority of deceptive subjects would cry to release the stress products generated within their body during the polygraph examination. Obviously, this is an inadequate assumption; not all deceptive subjects and not all people facing stressful situations produce tears. There is more to understanding the act of crying than the physiological explanation. The ability to suppress tears during stressful situations is well documented; however, why would a person suppress the tears when crying assists in maintaining internal homeostasis? Learning in the socialization process is especially important in understanding this phenomenon.

Although there are several learning theories, the one that best explains crying behavior is the operant conditioning theory. Operant conditioning describes learning as taking place as a result of a series of reinforcements and punishments.(Forehand, 1971) Thus the theory suggests that an individual may learn when it is appropriate or advantageous to engage in crying behavior. To illustrate this point, consider the following paradigm:

CHILD MISBEHAVES

PARENT SCOLDS THE CHILD

Child's Reaction:	Talks back	Starts to cry
Parent's Reaction:	Anger due to disrespect	Consoles the child

In this instance, the child cries as a result of being scolded and then is consoled by the parent. This consolation reinforces the crying behavior and thus the child learns that crying will elicit sympathy rather than further anger from the parent. The above paradigm may be altered to also illustrate how an individual learns when it is inappropriate to cry.

Crying may be viewed as a symbol of surrendering, losing control of oneself, giving up in defeat, or letting go of oneself.(Plessner, 1970a) With this in mind, it is understandable why some individuals have been conditioned/socialized not to give way and let the tears flow since tears may reflect a weakness in their character. These people suppress their tears and the excess stress products may take another escape route from their body by "...'weeping through the skin' in various rashes and eruptions, through the respiratory track in asthmatoid conditions or through the gastrointestinal tract in colitis or ulcers."(Montague, 1981a).

Conversely, a person's ability to surrender to tears may be considered an ability to relate to other people's feelings as well as their own. Tears may be interpreted as indicative of person's ability to express a variety of emotions: compassion, sympathy, remorse, or guilt. In summary, through the socialization process an individual learns to view tears as either an acceptable form of communication, as well as a means of expressing emotions or a weakness in character.

In American society it is generally taboo for boys to cry.(Montague, 1981b) Little boys learn early in life that "little men" don't cry. Little girls, on the other hand, are not generally subjected to the same taboo. However, to say that all women learn that crying is an acceptable form of communication and all men are taught the reverse would be a distortion of reality. When analyzing tears as a behavior symptom in lie detection, however, the sex of the subject should be considered.

Staff examiners at John E. Reid and Associates were interviewed to obtain information regarding the significance of appraising tears as a behavior symptom in lie detection.

Thoughts and Observation on Tears

Two distinct categories of tears as a behavior symptom were considered: tears during the pretest interview, and tears following the examination. The data gathered through interviews with the Reid examiners was not obtained through the use of a structured form. Rather the interviews consisted of general discussions about observations and past experiences with crying subjects. Although some general statements may be made from the data received, most examiners have their own personal preferences/ style on how they interpret tears as a behavior symptom.

As with all behavior symptoms, crying in and of itself is not sufficient to form an opinion of truth or deception. Crying from a subject must be viewed in relationship to the other factors involved. Crying must be analyzed in context; sometimes it is appropriate to shed a tear and sometimes inapprorpriate. The following thoughts and ideas from the examiners interviewed may assist other examiners in understanding and interpreting tears as a behavior symptom.

The precipitating cause of the tears must be psychogenic to be analyzed as a behavior symptom. The use of the medical data sheet may assist the examiner in determining whether or not the observed tears may be caused by an eye condition, medication or other physical condition. Careful observation of the subject may give the examiner information regarding the source of the tears; for example, constant blinking or rubbing of the eyes could indicate an irritant such as a contact lens out of place or a foreign object in the person's eye. General observations and precautions must be taken to assure that the tears observed are emotionally elicited tears.

Pretest Tears

General Considerations. What are some general considerations regarding tears during the pretest interview? The pretest interview is defined as "...a non-accusatory interview in which a structured set of questions are asked, some are, for the purpose of eliciting verbal and non-verbal behavioral symptoms, indicative of truth or deception."(Reid & Assoc. 1983a)

Behavior symptoms of tears during the pretest interview are rare. Basically, it's felt that since the pretest interview is non-accusatory, it is inappropriate under normal circumstances, for a subject to cry. The subject realizes the reason he or she is being tested, and the structured questions within the pretest interview should not provoke tears from a subject. Therefore, behavior symptom tears during this phase suggests great concern regarding the issue under investigation.

Another consideration is to determine whether or not the crying is real or manufactured. Most examiners interviewed stated they look for the actual tears. They consider sobbing without the tears as manufactured, and tears accompanied by verbal and non-verbal indications of crying as real. Also, real crying usually is preceded by a physical build up, such as a few sniffs, or a cracking in the subject's voice.

Tears that are considered a deceptive behavior symptom usually come on suddenly, spontaneously, and out of "nowhere". The subject is "turning the tears on and off" to manipulate or sway the examiner by eliciting sympathy. Generally truthful subjects do not use artificial means or tactics, such as crying, to influence the examiner.

The last consideration involves determining how much weight to place on tears as a deceptive behavior symptom. This is generally determined by evaluating whether or not crying is out of character for a particular subject. This involves the sex of the subject. If a man cries during the pretest interview, considerable weight is given to the behavior as a deceptive symptom. However, less weight or significance is given if a woman cries during the pretest interview.

Specific statements During Pretest Phase. Tears following the first direct question asked during the pretest interview, for example, "...Jim, if you had anything to do with (issue) you should tell me now."(Reid & Assoc. 1983b) are interpreted as a deceptive behavior symptom. The theory behind this interpretation is that the direct statement sets the stage for the events to follow the directness of the statement given the guilty subject the impression that the examiner is "going to get to the bottom" of the issue.

Tears from the truthful subject following the first direct question stem from being wrongly accused. This condition can be precipiated by an extensive interrogation prior to the polygraph exam, or from a feeling of frustration and helplessness due to overwhelming circumstantial evidence. Thus it is important to gather all the information possible in respect to how the subject was treated prior to the exam interview and to determine the precipitating cause of the tears.

Tears may also occur during the pretest interview when the subject is asked "How do you feel about taking the test today?" It was the opinion of the examiners interviewed that tears in response to this question are generally from a truthful subject. The theory is that this question provokes conditions and gives the subject an opportunity to vent frustration or deep seated anger for being wrongly accused. The truthful subject may be frustrated or upset because of feeling that innocence must be proven. A truthful subject may also cry when asked this question because of something emotional other than the issue under investigation.

Tears during investigative type questioning, which are asked to uncover the subject's knowledge regarding the incident and gain further insight into the matter, are commonly from the deceptive subject. The theory is that the deceptive subject is reliving the event and feelings of remorse or shame are provoked when this experience is recalled.

The testing environment also finds specific observations regarding tears during the pretest interview. One group of examiners interviewed felt that a subject is more likely to cry if the polygraph exam is administered at the subject's workplace. This group felt that the work places produced additional stress because of the psychological need to prove innocence to ones peer group. Other examiners, however, felt that tears are more likely to occur at the examiner's office site. This group felt that the subject may gain support from fellow workers when tests are conducted at the workplace and will lose that support at the examiner's office. Other valid comments were related to the implication of being seen with blood shot eyes by co-workers. If the subject leaves the examiner's office with blood shot eyes, co-workers will not be able to observe or make judgments. Thus there are two view points regarding tears and the testing environment.

Tears during the pretest interview may also begin when the examiner is explaining and placing the polygraph attachments on the subject. Tears in this phase are considered deceptive behavior symptoms since it is totally inappropriate for a subject to cry during this stage of the examination. The examiner is merely explaining the function of the attachments, and is not addressing the issue under investigation. One examiner interviewed said that in his opinion, tears during this stage of the

examination may be looked upon as a countermeasure, in that the subject may be attempting to postpone the examination, or perhaps, rationalize this emotional state as the reason for not being reported truthful.

Since crying can render a subject unsuitable for a polygraph examination, it is important to know how to stop the crying behavior when it does occur.

Determining the precipitating cause of the tears is an important factor in deciding how to stop the crying behavior. If the tears are precipitated by frustration, the subject should be reassured that he/she is not being accused and that the examiner is as anxious to establish the truth as the subject. Most of the examiners interviewed felt that by redirecting the interview and engaging in questioning not directly related to the issue, provides the subject an opportunity to regain composure. One tactic suggested involves placing tissues and a trash can directly in front of the subject. This is a "hint" to the subject to regain composure without directly addressing the crying behavior.

In summary, crying behavior during the pretest interview is rare. truthful subjects generally cry as a result of frustration, whereas tears from deceptive subjects originate from the fear of discovery or remorse. Crying which comes on suddenly, turned on and off easily are usually artificial and used to gain sympathy. A build up of emotions preceeding the tears are usually real and sincere tears. To properly interpret the meaning of the tears the examiner should pursue the precipitating cause of the behavior whenever appropriate. In one example cited, a subject was asked whether or not a person who stole money should be given a second chance. The subject said "no" and proceeded to cry. The examiner following with "Why not?" The subject then relayed a story of how his son was convicted of armed robbery, received an early release from prison, and within two weeks of his release from prison was shot and killed while holding up a liquor store.

In the above example, the examiner properly pursured the matter in order to understand the crying behavior. If the examiner had not purused the crying, he may have incorrectly interpreted the behavior. Tears may also occur due to outside issues, and it is crucial to follow-up any "lead" that may indicate that the subject is concerned or upset about something other than the matter under investigation.

Since there are many factors that influence crying behavior, the examiner must be extremely careful not to misinterpret the meaning of the crying.

Post Test Tears

Although crying during the post test interview is observed more frequently than crying during the pretest, it is not an everyday occurrance. It is estimated that examiners will encounter crying behavior during the interrogation about five per cent of the time.

Crying behavior which occurs during any stage of the interrogation is interpreted to be a strong indication of guilt/deception. However, there is an exception. The exception may become evident during the first step

of the interrogation which is referred to as the direct positive confrontation.

The DPC is a statement of confidence made by the examiner to the subject indicating the subject's deception. For example, "...The results of our investigation clearly indicated that you are the one that ..."(Reid & Assoc. 1983c) A truthful subject may shed tears because of the frustration caused by being wrongly accused. Fortunately, once the examiner proceeds with the interrogation, the truthful subject will most likely exhibit other verbal and non-verbal indications of innocence. Once again, it is important to evaluate the tears in context since an awareness of the underlying factors influencing the tears assist in the correct interpretation of the behavior.

Conversely, tears from a deceptive subject, which occur during the DPC are interpreted as a "delay tactic". The subject may be surprised by the examiner's confidence, or by the directness of the examiner's assertions and thus is psychologically prepared and needs time to establish defenses. By crying the subject may believe the examiner will "lay off" for a while. Of course, the examiner proceeds with the interrogation.

Tears which occur during the second step of the interrogation process, theme development, are considered an almost certain symptom of deception. The "theme" is a monologue "...presented by the interrogator in which he offers reasons and excuses that will serve to psychologically (not legally) justify, or minimize the moral seriousness of the suspect's criminal behavior."(Reid. & Assoc. 1983d) Tears during this phase of the interrogation are interpreted as an indication that the subject is internalizing the examiner's message. When this occurs, the examiner should abbreviate their theme and offer the alternative. The alternative is defined as "...a question which the suspect is offered two incriminating choices concerning some aspects of the crime."(Reid & Assoc. 1983d) In essence, a good reason for committing the crime and a bad reason for committing the crime. The theme is abbreviated because it is assumed that the tears indicate the subject is psychologically prepared to confess so the examiner takes advantage of the moment by offering the alternative.

Some examiners will talk about the tears with the subject. None, however, should mention them to a person that would likely be ashamed of the tears since this may alienate the subject. When commenting on the tears, the examiner should speak of the tears as a symbol of the subject's caring, remorse or sensitivity towards others, and carefully interweave these thoughts into the theme and the alternative.

Tears which occur when the examiner offers the alternative may be viewed as the subject's adknowledgement of guilt. They are considered as much of an indication of a confession as a gentle nod or a direct yes. These tears are the subject's sign of surrender.

When observing tears during the interrogation, the examiner should increase the level of sympathy by using a softer tone of voice of by incorporating within the theme, the good, personal qualities of the subject. The examiner should be persistant with their theme and alternative regardless of the subject's tears. It is considered a mistake for the examiner to slow down or stop the interogation due to tears because pulling back on

the interrogation would allow time for the subject to build resistance.

Concern may arise regarding the trustworthiness and voluntariness of confessions elicited from crying subjects. The examiners interviewed felt that it is important to be persistant with the theme and alternatives, but also to use common sense. None of the examiners interviewed felt uncomfortable about continuing an interrogation while the subject cried, nor did they feel that any eventual admission of guilt would be considered made under duress. One interviewed examiner summed this up by saying that consoling the subject was his "reward" to the subject for telling the truth. Until the admission of guilt, he makes no attempt to console or stop the subject's tears.

Post Test Summary

Tears are extremely significant during the interrogation. Tears which occur during any step of the interrogation are usually considered indicative of deception.

Conclusion

Emotionally stimulated tears are a significant behavior symptom in lie detection. In order to consider the tears as a behavior symptom, it is essential for the examiner to understand and possibly pursue the precipitating cause of the behavior.

A knowledge of the physiological aspects of lacrimation is important because current research suggests that stress by-products which are generated during a fight/flight situation are released through the lacrimal glands.

Psychologically, individuals learn when it is appropriate, inappropriate or advantageous to cry. Children may learn early in life, through operant conditioning, that crying behavior may be used to their advantage. This may be related to the crying behavior in a subject during the pretest or post test. The subject may cry as a defense against the examiner's questioning or accusations. The subject may be of the believe that their tears will result in sympathy from the examiner, and thereby gaining an advantage over the examiner. As stated earlier, examiners should not allow tears to sway them in their quest for the subject's admission of guilt during the interrogation.

Subject tears during the pretest are rare, and the interpretation of the meaning of these tears by the examiner depends upon many factors. Tears from the subjects during the interrogation are more common, but generally not often more than five per cent of the time. Tears occurring during an interrogation are generally considered to be indicative of deception, and appear to be a reliable behavior symptom.

In conclusion, it seems important for the examiner to use common sense when interpreting the meaning of handling tears from crying subjects. It is advisable for the examiner to understand the reasons why a subject is crying: Is it due to outside concerns, guilt, or frustration? As with each behavior symptom observed during a pretest interview or an interrogation, the behavior should be evaluated as a part of the whole,

rather than a definitive indication of the subject's truthfulness or deceptionism.

Footnotes

1. Stella A. Bothelo, "Tears and the Lacrimal Glands," Opthalmology Journal (November 1964): 78.

2. Garlie A. Forehand, Marguerite Malm, Herbert Sorenson, Psychology For Living, 3d edition. New York: Webster Division, McGraw-Hill, Inc., 1971, p. 45.

3. Helmuth Plessner, Laughing and Crying. Evanston: Northwestern University Press, 1970, p. 116.

4. Ashley Montague, "Evolution of Weeping," Science Digest (November 1981a): 32.

5. Plessner, 1970b, p. 116.

6. Montague, 1981b, p. 32.

7. John E. Reid and Associates, Five-Day Course on Criminal Interrogation and Behavioral Analysis Interviews. Chicago: 1983a, p. 30.

8. Reid & Associates, 1983b, p. 33.

9. Reid & Associates, 1983c, p. 45.

10. Reid & Associates, 1983d, p. 48.

11. Reid & Associates, 1983e, p. 80.

* * * * * *

TEN YEARS OF POLYGRAPH; A TEN-YEAR INDEX, 1972-1982

Compiled and Edited by

Albert D. Snyder & Janet K. Pumphrey

A Book Review

By

Norman Ansley

This is a superb index to the articles and materials which have appeared in the American Polygraph Association's quarterly journal Polygraph. It is much more than the usual ten-year index published by most journals. First, the index displays the titles as they appeared for each issue of the journal, issue by issue. Then there is a separate listing of the book reviews arranged alphabetically by the authors of the books reviewed. That is followed by the titles of the books, dissertations, and pamphlets reviewed in the journal. Because the journal frequently includes abstracts of scientific articles appearing in other journals, there is a listing of those by the authors whose works have been abstracted, then the titles of the abstracted articles, also arranged alphabetically. Finally, there are 87 pages devoted to an index by topic, and by author.

Anyone who considers polygraph or research his profession should own a copy of Ten Years of Polygraph.

This book was published privately by Albert D. Snyder and Janet K. Pumphrey. It may be purchased for $20.00, postpaid. Make the check payable to Janet K. Pumphrey, P.O. Box 1061, Severna Park, MD 21146.

* * * * * *

PREEMPLOYMENT POLYGRAPHY

By

Robert J. Ferguson and Chris Gugas, Sr.
Charles C. Thomas, Publishers, Springfield, Ill., 1984.

A Book Review

By

Michael F. Barton

One of the most widely read authors on the field of polygraphy has done it again. This time with a new co-author. Ferguson and Gugas have teamed up to produce a work that has been needed a long time. The subject is preemployment polygraph and as the introduction states, "...our first purpose herein is to instruct the student polygraphist and the intern-beginner preparing to enter the private industrial field..."

This reviewer read the working manuscript not the published book (due out 9/1/84) and read the work in about three hours. It is very readable but at the same time delves deeply into many areas of importance; fact-finding through use of a data sheet; rephrasing questions; how to handle pre-test/post-test admissions; several test construction methods, how to handle both verbal and written reports; etc. To most APA members this book will be a re-hash of what most of us do everyday. But remember back to when you first started in preemployment polygraphy; it was new, you were scared and you had no source to turn to. Todays new intern or student does. Ferguson and Gugas repeatedly discuss ethics; seeing the subject as a human being; the examiner's responsibility to respect the rights of the citizen but at the same time how to legally gain that information the examiner's client needs to make a hire or no hire decision based on verified facts.

If there is a draw back to this book, it is in the price($29.75) which the authors had no say in. But even at nearly $30.00 every examiner should own a copy to consult or to use as a teaching aid if you should sponsor a new examiner.

* * * * * *

FORENSIC SCIENCE

By

Geoffrey Davies, Editor
American Chemical Society, 1155 16th St.,
N.W., Washington, D.C. 20036. It may be
ordered from the books department for
$23.94, U.S. and Canada. Export $28.95.

A Book Review

By

Norman Ansley

This book is the product of a symposium co-sponsored by the Division of Analytical Chemistry and the Division of Chemical Education, Inc. at the American Chemical Society, Atlantic City, N.J., September 8th and 9th, 1974. Accordingly, some of the information is dated. However, that does not seriously diminish the true value of the book. These papers are on the topic of criminalistics, considered by some to be a subdivision of forensic sciences which involves the collection and laboratory examination of physical evidence.

There are articles of a technical nature which cover neutron activation analysis and atomic absorption spectroscopy of gunshot residue, recovery and identification of residues of flammable liquids from suspected arson debris, differential scanning calorimetry, firearm residue detection, application of materials science methods to forensic problems, bloodstain and physiological fluid analysis, ink analysis, forensic toxicology and analytical chemistry, photoluminescence techniques, and bullet search systems. There are more general papers on personnel policies in

forensic science, educators in forensic science, introductory forensic science courses in law enforcement, graduate education and research in forensic chemistry at Northeastern University, and LEAA's forensic science research program.

The graphics, tables, and color plates are clear. The overall quality of the papers is excellent. As with all such collections there is a considerable difference in the style, and the assumptions of the authors about the reader's knowledge. This is not a textbook. It is a reference book for practitioners and those who do research or teach in this vital field. To those, this material is probably not available elsewhere, and is a necessary addition to their libraries.

* * * * * *

ABSTRACTS

Finger Pulse Volume

Timothy W. Smith, B. Kent Houston, and Raymond M. Zurawski. "Finger Pulse Volume as a Measure of Anxiety in Response to Evaluative Threat." Psychophysiology 21 (3)(1984): 260-264.

Previous research has validated finger pulse volume (FPV) as a measure of anxiety in response to threat of physical harm. The present study evaluated FPV as a measure of anxiety in response to a social-evaluative threat. Physiological and self-report measures of anxiety were recorded while subjects anticipated and responded to an interview in either high or low stress conditions. Results indicated that FPV was sensitive to the stress manipulation during both periods and was correlated with self-reported anxiety during the anticipation period. The findings were discussed in terms of FPV as a physiological index in the assessment of anxiety. [author abstract] References.

Address requests for reprints to Timothy W. Smith, Ph.D., who is now at the Department of Psychology, University of Utah, Salt Lake City, Utah 84112.

Electrode Gels

Susan J. Grey and Brian L. Smith. "A Comparison Between Commercially Available Electrode Gels and Purpose-Made Gel, in the Measurement of Electrodermal Activity." Psychophysiology 21 (5)(1984): 551-557.

Despite general agreement that a standardized procedure is desirable for the measurement of electrodermal activity, several types of electrode gel are in common use. In this study, 20 volunteers listened to a series of tones while skin conductance was measured at four sites using four different gels, namely K-Y Jelly, Beckman, Neptic, and purpose-made 0.05M NaCl in methyl cellulose. Prestimulus response amplitude, change in conductance level, response latency, and response probability were measured. Analysis of variance showed a significant between-gels effect for prestimulus conductance levels, with Beckman and Neptic giving higher levels than K-Y Jelly or 0.05M, as predicted. There were no between-gels effects

forensic science, educators in forensic science, introductory forensic science courses in law enforcement, graduate education and research in forensic chemistry at Northeastern University, and LEAA's forensic science research program.

The graphics, tables, and color plates are clear. The overall quality of the papers is excellent. As with all such collections there is a considerable difference in the style, and the assumptions of the authors about the reader's knowledge. This is not a textbook. It is a reference book for practitioners and those who do research or teach in this vital field. To those, this material is probably not available elsewhere, and is a necessary addition to their libraries.

* * * * * *

ABSTRACTS

Finger Pulse Volume

Timothy W. Smith, B. Kent Houston, and Raymond M. Zurawski. "Finger Pulse Volume as a Measure of Anxiety in Response to Evaluative Threat." Psychophysiology 21 (3)(1984): 260-264.

Previous research has validated finger pulse volume (FPV) as a measure of anxiety in response to threat of physical harm. The present study evaluated FPV as a measure of anxiety in response to a social-evaluative threat. Physiological and self-report measures of anxiety were recorded while subjects anticipated and responded to an interview in either high or low stress conditions. Results indicated that FPV was sensitive to the stress manipulation during both periods and was correlated with self-reported anxiety during the anticipation period. The findings were discussed in terms of FPV as a physiological index in the assessment of anxiety. [author abstract] References.

Address requests for reprints to Timothy W. Smith, Ph.D., who is now at the Department of Psychology, University of Utah, Salt Lake City, Utah 84112.

Electrode Gels

Susan J. Grey and Brian L. Smith. "A Comparison Between Commercially Available Electrode Gels and Purpose-Made Gel, in the Measurement of Electrodermal Activity." Psychophysiology 21 (5)(1984): 551-557.

Despite general agreement that a standardized procedure is desirable for the measurement of electrodermal activity, several types of electrode gel are in common use. In this study, 20 volunteers listened to a series of tones while skin conductance was measured at four sites using four different gels, namely K-Y Jelly, Beckman, Neptic, and purpose-made 0.05M NaCl in methyl cellulose. Prestimulus response amplitude, change in conductance level, response latency, and response probability were measured. Analysis of variance showed a significant between-gels effect for prestimulus conductance levels, with Beckman and Neptic giving higher levels than K-Y Jelly or 0.05M, as predicted. There were no between-gels effects

for the other variables. There were no effects due to placements or channels. The results are discussed in relation to the theoretical requirements of electrode gels used for measuring electrodermal activity. [author abstract] References.

Address for requests for reprints to Susan J. Grey, Department of Psychology, Institute of Psychiatry, De Crespigny Park, London SE5 8AF, England.

* * * * * *

LIES

Telling lies to the young is wrong.
Proving to them that lies are true is wrong.
Telling them that God's in his heaven
and all's well with the world is wrong.
The young know what you mean. The young are people.
Tell them the difficulties can't be counted,
and let them see not only what will be
but see with clarity these present times.
Say obtacles exist they must encounter
sorrow happens, hardship happens.
The hell with it. Who never knew
The price of happiness will not be happy.
Forgive no error you recognize,
It will repeat itself, increase,
and afterwards our pupils
will not forgive in us what we forgave.

-- Yevgeny Yevtushenko

From Yevtushenko: Selected Poems, translated by Robin Milner-Gulland and Peter Levi, SJ Copyright, Robin Milner-Gulland and Peter Levi, 1962. Penguin Books, Ltd.

* * * * * *