

## Lie Detectors Belong in Museums, Not in Sexual Harassment Trials

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### I. Introduction

Plaintiffs are increasingly seeking to use polygraph (lie detector) examinations, which purport to determine whether or not an individual is telling the truth, in cases involving allegations of sexual harassment in the work place. Since such cases typically hinge upon the credibility of the parties, plaintiffs may wish to introduce favorable polygraph results in order to bolster their story and, ultimately, establish that the defendant is liable under the Civil Rights Act of 1964, 42 U.S.C. § 2000e et. seq. See Meyers v. Arcudi, 1996 WL 711329 (D. Conn. 1996).

The lie detector records physical changes in the body: fluctuations in blood pressure, respiration, and perspiration that occur as the test subject answers a series of questions. By studying the physiological measurements, the polygraph operator makes a judgment whether the subject's response to each question was truthful or deceptive. As a result of careful questioning and close observation of the subject, the operator is supposed to recognize and discount extraneous reactions -- induced, perhaps, by nervousness or the effects of medication -- and isolate the meaningful signs of deception. Thus, it is the operator, not the machine, that is the real "lie detector."

The examination is not limited to questions directly related to work, but often strays into an individual's personal life. See Jussim, "Lies, Damn Lies - And Polygraphs," Nation 665, 682 (December 21, 1985) (article contains illustrative examples of personal inquiries). The methods used by examiners vary. The privacy of the examination itself varies. The interpretation of the results of a particular examination may also vary from examiner to examiner.

### A. The Parties' Conflicting Interests in the Use of Polygraph Examinations

In general, polygraph examinations in the workplace raise issues of economy, effectiveness, privacy, and the rights of employees. Among the plaintiffs' interests are to establish, by a preponderance of the evidence, that he/she has been (and continues to be) sexually harassed by the defendant, in violation of Title VII of the Civil Rights Act of 1964. Polygraph examinations would provide a relatively inexpensive method of either discrediting the defendant or establishing the credibility of the plaintiff. In 1997, a polygraph examination would cost under \$1,000, but in addition,

the expert witness who will testify at trial would cost between \$1,000 and \$2,000 a day. Lawyers Weekly USA, vol. 97-2: 1, 10 (Jan. 27, 1997).

On the other hand, among the defendants' interests are privacy, job security, not being falsely accused of wrongdoing, being treated fairly in the investigation of particular incidents of his/her character, and maintaining an accurate and non-prejudicial personnel records. See Gardner, Wiretapping the Mind: A Call to Regulate Truth Verification in Employment, 21 San Diego L. Rev. 295 (March, 1984); Committee on Civil Rights, The Use of Polygraphs by Employers: A Recommendation for Prohibition, 36 Record of the Association of the Bar of the City of New York 482 (1981) (hereinafter "Recommendation"); Comment, Privacy: The Polygraph in Employment, 30 Ark. L. Rev. 35, 38, 40 (1976); Note, Lie Detectors in the Employment Context, 34 La. L. Rev. 694 (1975); Burkey, The Case Against the Polygraph, 51 A.B.A.J. 855, 857 (1965). The use of polygraph examinations may result in the erroneous branding of employees as dishonest. Not only could employees lose their jobs but they may also be made unemployable in their chosen fields because polygraph examination results can follow them throughout their lives. The increasing use of polygraph testing requires a careful analysis of the competing interests of plaintiffs and defendants, and the potential costs in civil liability and ruined careers.

## **B. Issues Presented by the Use of Polygraph Examinations**

In order to understand the potential risk of admitting polygraph results into evidence, this paper will examine the theory and mechanics of lie detection tests. In addition, it will evaluate the factors that contribute to the validity issues concerning the polygraph results. Finally, it will provide recent civil and criminal cases that have resolved the question of admitting polygraph evidence into federal trials.

## **II. Polygraphs -- The Theory and Mechanics of Lie Detection**

### **A. The Theory**

1. According to the proponents of polygraphs, lying causes people to encounter actual emotional conflict which, in turn, causes fear or anxiety which then causes unique physiological reactions that can be mechanically measured. Matte, The Art and Science of the Polygraph Technique 37-49 (Springfield, Ill., Charles C. Thomas, 1980). The theory is that deception produces distinctive physiological changes that characterize lying and only lying. A lie detector, its proponents claim, records the "internal blushes" of a liar. Many authorities dispute this theory. See e.g., Kleinmuntz, "Lie Detectors Fail the Truth Test," Harv. Bus. Rev. 63: 36, 37 (July-August 1985) ("This notion has no empirical support. Quite the contrary: lying produces no known distinctive pattern of physiological activity.").
2. The polygraph test is a form of applied psychophysiology- a psychological test in which physiological responses are used as a basis for inferring psychological events. Lykken, "Detecting Deception," Society 34 (Sept.-Oct. 1985). The polygraph is based on two fundamental theoretical assumptions. First, it assumes that lying is directly related to certain emotional states. And, it assumes that the emotional states that are directly related to lying are themselves related to specific measurable physiological changes. H.R. Rep. No. 99-416, 99th Cong., 1st Sess. 5 (1985); Nagle, The Polygraph in the Workplace, 18 U. Rich. L. Rev. 43, 48 (1983); Burkey, The Case Against the Polygraph, 51 A.B.A.J. 855 (1965); Note, Lie Detectors in Private Employment: A Proposal for Balancing Interests, 33 Geo. Wash. L. Rev. 932, 933 (1965); Skolnick, Scientific Theory and Scientific Evidence: An Analysis of Lie Detection, 70 Yale L.J. 698, 699-700 (1961).

### **B. How the Polygraph Works**

To discover deception, or its absence, a subject is typically seated in a chair with electrodes attached to his fingertips, a blood pressure cuff on his arm, and a pneumatic tube strapped around his chest. See Nagle, The Polygraph in the Workplace, 18 U. Rich. L. Rev. 43, 49-50 (1983);

Kleinmuntz & Szucko, On the Fallibility of Lie Detection, 17 Law & Soc. Rev. 85, 88 (1982) (hereinafter "Kleinmuntz & Szucko, Fallibility"); Skolnick, Scientific Theory and Scientific Evidence: An Analysis of Lie Detection, 70 Yale L.J. 694, 697 (1961); Lykken, The Probity of the Polygraph, ch.4 in Kassim and Wrightsman (Eds.), The Psychology of Evidence and Trial Procedure (Beverly Hills, Calif., Sage, 1985). These instruments record several physiological responses. Normally, the lie detector records four channels of information on a moving paper chart.

### 1. Respiration

In most cases respiration is recorded from the subject's abdominal and thoracic areas by affixing a corrugated (pneumatic) rubber tube around the stomach and chest. Two pens are connected to these pneumatic tubes. These pens record thoracic and abdominal breathing movements. Some polygraphs include a tube which is stretched around a person's throat to gauge swallowing, contractions of the throat, and voice muscle tensions.

### 2. Blood Pressure - Pulse

The blood pressure pulse is recorded by placing a standard physician's blood pressure cuff around the subject's upper arm area. At the start of a question series, this cuff is inflated to partially occlude the flow of blood in the arm and then, with every heartbeat, the pressure in the system varies about this arbitrary mean value. Thus, the "cardio" pen deflects with each heartbeat and the entire tracing moves up or down with transitory changes in blood pressure.

### 3. GSR (Galvanic Skin Reflex)

The GSR records the subject's skin resistance to the passage of an electrical impulse, by placing an electrode on each of two fingers on one hand. This is the "electrodermal" channel, which records wavelike changes in the electrical resistance of the skin that are in turn related to the sweating of the palms.

### 4. Muscular Movements

Some instruments are equipped with the capability of recording unobservable muscular movements the subject may make. A specially designed chair is required for this recording. The muscular movement pattern will usually follow the general trend of the respiratory pattern.

## C. How the Voice Stress Analyzer and Psychological Stress Evaluator Work

Mechanical lie detection devices include the Voice Stress Analyzer (V.S.A.) and the Psychological Stress Evaluator (P.S.E.), as well as the polygraph. Hiller, Psychological Stress Evaluator, 24 Clev. St. L. Rev. 299 (1975); Kenety, The Psychological Stress Evaluator: The Theory, Validity and Legal Status of an Innovative "Lie Detector", 55 Ind. L.J. 349, 353 (1980); Rice, "The New Truth Machines," Psychology Today 61 (June 1978). The P.S.E. is supposed to be able to detect a lie by measuring involuntary physiological changes which are associated with stress. The P.S.E. measures the audible and inaudible frequency modulations of the human voice, and displays the results on a graph. The V.S.A. detects rapid variations in the vibrato or tremolo amplitude of speech, and electronically assigns numerical values to those variations. The V.S.A. then instantaneously displays a number supposedly indicating whether a person lied or told the truth. The V.S.A. can be surreptitiously administered without the subject's knowledge. See the discussion of the P.S.E. and V.S.A. in the testimony of William Wynn, President, United Food and Commercial Workers International Union, on S. 1815 before Senate Labor and Human Resources Committee extracted in 79 D.L.R. 1 (April 24, 1986). These devices operate on the same fundamental theory and assumption as the polygraph, that is, that unique physiological reactions reveal lying. See Note, Lie Detector Evidence -- New Mexico Court of Appeals Holds Voice-Stress Lie Detector Evidence Conditionally Admissible: Simon Neustadt Family Center, Inc. v. Bludworth, 13 N.M L. Rev. 703, 704 (1983).

## D. Examination Methods

### 1. Control Question Test (CQT)

One basic model of examination is the “control question” test (CQT). The CQT is used to determine whether responses are in fact the result of the questions being asked, rather than extraneous factors such as naturally high blood pressure or an extreme propensity to perspire under interrogation.

- (a) The subject is asked a series of questions, each question falling into one of three categories:
  - (i) Case-irrelevant questions, innocuous questions usually concerning biographical data;
  - (ii) Control questions which are not directly related to the matter under investigation, but are designed to elicit emotional responses; and
  - (iii) Test questions which are directly related to the matter under investigation, case-relevant questions. See Nagle, *The Polygraph in the Workplace*, 18 U. Rich. L. Rev. 43, 55 (1983); Kleinmuntz & Szucko, *Fallibility*, 17 Law & Soc. Rev. 85, 89 (1982); Comment, *Privacy: The Polygraph in Employment*, 30 Ark. L. Rev. 35, 37 (1976).
- (b) The subject verbally responds to each question. As he/she responds, his/her blood pressure, pulse, respiration, muscular activity and galvanic skin reflex are measured and recorded on a graph, establishing patterns.
- (c) The measured physiological responses to control and test questions are compared. The paleographer interprets differences in the responses to control and test questions to infer truthfulness or indications of deception in the subject’s responses to specific questions. In evaluating the polygraph charts, most examiners look for signs of emotional disturbance concerning the case-relevant questions that is greater or more persistent than that associated with the control questions. See Kleinmuntz & Szucko, *Fallibility* 17 Law & Soc. Rev. 85, 89 (1982); Comment, *Regulation of Polygraph Testing in the Employment Context: Suggested Statutory Control on Test Use and Examiner Competence*, 15 U.C.D. L. Rev. 113, 117 (1981).

### 2. Zone Comparison Technique (ZCT)

The ZCT was developed in 1960. The ZCT is a modification of the control question concept developed in the 1940’s and introduced two new safeguards against errors and inconclusive results. The safeguards are referred to as the sacrifice relevant and symptomatic questions. The sacrifice relevant question allows for dissipation of excessive general nervous tension or undue anxiety prior to the asking of the primary relevant questions. The symptomatic question provides a means to identify outside issues extraneous to the test issue(s) which may be of overwhelming significance to the examinee. Identification of such issues aids the examiner in structuring a reliable test that is not degraded by these external issues. The symptomatic question also helps the examiner to properly word the relevant questions. The ZCT is the technique of preference for resolving criminal issues which are limited or easily defined. The ZCT permits the asking of questions pertaining to two primary issues in the body of the text. It also has a “SKY” phase utilized on one or two charts which helps determine the degree of the primary relevant issue. It has become one of the most popular and widely used techniques in government law enforcement.

### 3. Modified General Question Technique (MGQT)

The MGQT was adapted by the Army in 1956 from the 1953 Reid control question test. It is the technique of preference in criminal investigation testing where there are multiple issues within a singular case to be resolved, as it allows the examiner to address primary involvement, secondary involvement, guilty knowledge and evidence connecting issues. The MGQT is one of the more popular examination formats in government law enforcement because of its flexibility. In addition to being able to address multiple issues, examiners can shift the relevant questions on one or more

charts by collecting a mixed series questioning sequence. The Army's MGQT utilizes control questions which are separated from the relevant issues by time and/or place.

#### 4. Relevant/Irrelevant (R/I)

The R/I techniques were developed in the 1920's and 1930's, and the Keeler version became the first standardized polygraph question technique. R/I techniques were used exclusively within the U.S. Government until 1956, when a control question technique was introduced. R/I techniques are used extensively in intelligence screening in examinations and occasionally in criminal investigations. R/I techniques in the government employ the use of irrelevant questions interspersed among relevant questions, plus additional special purpose questions, including one or more control questions. The R/I technique is the technique of preference for people who decline to answer broad crime-related questions necessary for the development of control questions as they are used in ZCT and MGQT, as well as persons who are familiar with criminal polygraph testing procedures.

#### 5. Peak of Tension (POT)

The POT was standardized in the 1930's and is used in conjunction with virtually every type of testing technique known to polygraph. Essentially, the POT is a guilty knowledge test where the examinee's knowledge of a particular item within the overall testing issues can be detected. It can be a known POT, wherein the examiner and the guilty subject know the key item and the innocent person does not, or a searching POT, where the key item is only known by the guilty subject and not by the examiner.

### E. What the Polygraph Measures and Interprets

1. The polygraph measures temporary physical states which are presumed to be uniquely related to emotional states that accompany truthfulness or deception. See H.R. Rep. No. 99-416, 99th Cong., 1st Sess. 5 (1985); Hermann, *Privacy, The Prospective Employee, and Employment Testing: The Need to Restrict Polygraph and Personality Testing*, 47 Wash. L. Rev. 73, 77 (1971); *supra* II. A. 1. The lie detector does not detect lies *per se*. It merely records blood pressure, perspiration and breathing patterns. Opponents of the lie detector contend that, while the "experienced examiner may be able to determine from the polygraph chart that your reaction to question A was stronger than your reaction to question B, but no one, no matter how experienced, can tell from the chart *why* you responded as you did, whether the question made you feel guilty, or frightened, or angry, or indeed whether you artificially induced the reaction by, say, biting your tongue after answering the question." Lykken, "Detecting Deception in 1984," *American Behavioral Scientist* 481, 485 (March-April 1984). Because the test results must be interpreted, the operator's personal judgment and discretion are injected, with the result that even skilled operators may differently interpret the same results.
2. The polygraph measures excitement or stress reactions which may arise from many sources. "The polygraph merely records general emotional arousal. It cannot distinguish anxiety or indignation from guilt." Meyer, "Do Lie Detectors Lie?," *Science* 24, 26 (June 1982). Excitement may arise from fear or anxiety about being examined, about being examined with respect to personal matters or beliefs, from fear or anxiety that the results of the examination could have an effect upon the subject's job, career or future,<sup>1</sup> from simple embarrassment or nervousness, or from anxiety or anger over being suspected of some wrongdoing. Excitement is a condition that can be stimulated by any number of stimuli, including, in some people, lying. See H.R. Rep. No. 99-416, 99th Cong., 1st Sess. 5 (1985); Craig, *The Presidential Polygraph Order and the 4th Amendment: Subjecting Federal Employees to Warrantless Searches*, 69 Cornell L.

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<sup>1</sup> "Polygraph them all. I don't know anything about polygraphs and I don't know how accurate they are, but I know they'll scare the hell out of people." Richard M. Nixon, July 24, 1971, Hearings Before the House Judiciary Committee on the Impeachment of the President, 93d Cong., 2d Sess., Statement of Information, bk. VII, pt. 2 at 881 (1974).

Rev. 896 (1984); Comment, Privacy: The Polygraph in Employment, 30 Ark. L. Rev. 35, 36 (1976).

3. The polygraph interprets stress reactions measured in response to control versus test questions. The paleographer's interpretation is necessarily based on the presumption that observations of excitement are caused by a mental state uniquely induced by lying. H.R. Rep. No. 99-416, 99th Cong., 1st Sess. 5 (1985). Discrete observations of excitement are interpreted as falling at one of three points on a judgmental continuum indicating:
  - (a) Deception;
  - (b) Inconclusive Responses; or
  - (c) Truthfulness. Id. at 7. See also, Lykken, "Detecting Deception in 1984," American Behavioral Scientist, 481, 485 (March - April 1984) (discussion of numerical scoring).

### III. Issues of Validity

#### A. American Psychological Association

The American Psychological Association (APA) adopted a resolution on February 1, 1986 in which it stated that "the scientific evidence is still unsatisfactory for the validity of psychophysiological indicators to infer deceptive behavior." The APA found that the evidence of validity is "particularly poor concerning polygraph use in employment screening." The APA's resolution stated that "polygraph tests used in all applied settings should be based on adequate psychological and psychophysiological training and sophistication. Their use by psychologists must be consistent with the [APA] Standards for Educational and Psychological Testing and the [APA] Ethical Principles of Psychologists. They should be used only when such use is justified by the existence of sufficient data on their reliability and validity for the particular population, context and specific purpose." See also, Symposium on Polygraphic Examining for Pre-employment Screening, Annual Meeting, American Psychological Association, September 1979.

#### B. American Medical Association

The American Medical Association (AMA) has also found that polygraphs are unreliable and inappropriate for use in the workplace. Council on Scientific Affairs, "Polygraph," Journal of the American Medical Association, 274:1172-1175 (Sept. 5, 1986). The Council's report stated: "The American Medical Association (AMA) Council on Scientific Affairs has reviewed the data on the validity and accuracy of polygraph testing as it is applied today. The use of the control question technique in criminal cases is time honored and has seen much scientific study. It is established that classification of guilty can be made with 75% to 97% accuracy, but the rate of false-positives is often sufficiently high to preclude use of this test as the sole arbiter of guilt or innocence. This does not preclude using the polygraph test in criminal investigations as evidence or as another source of information to guide the investigation with full appreciation of the limitations in its use. Application of the polygraph in personnel screening, although gaining a popularity, has not been adequately validated. The few limited studies that have been performed suggest no greater accuracy for the types of testing done for this purpose than for the control question polygraph testing used in criminal cases. The effect of polygraph testing to deter theft and fraud associated with employment has never been measured, nor has its impact on employee morale and productivity been determined. Much more serious research needs to be done before the polygraph should be generally accepted for this purpose."

"[T]he application of the polygraph test to a group, most of whom are certainly innocent, may frighten some into more careful and truthful answers but will also lead to a low level of predictability with a large number of false-positive results."

"The erosion of employee morale and the risk of employer liability may not be worth the possible benefits of uncovering a disloyal employee. Furthermore, an unacceptable percentage of 'innocent' persons may be labeled as 'deceptive' in a polygraph screening situation in which most of

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those screened were truthful. It has been estimated that, even if the results of the polygraph testing were 95% valid and the predictive value was 50%, in a screened population of 1000 in which 5% were guilty of some transgression, 47 of the 50 guilty people would be apprehended but 47 innocent people would also be labeled as guilty. [footnote omitted] These calculations, although based on reasonable estimates from the experience in the field with criminal testing, may be too optimistic.”

### CONCLUSIONS AND RECOMMENDATIONS

“The Council offers the following conclusions:...”

“The possible savings in control of employee fraud and theft that might be accomplished by polygraph screening has not been examined in any scientifically valid study, nor has any investigator adequately examined the possible impact of polygraph screening on employee morale and productivity.”

“In screening tests applied to a large work population, predictability depends on the incidence of true-positive test results in that population but also on the false-negative test results. This means that even with a test of 95% accuracy in a population containing few guilty subjects, an unacceptable number of truly negative (truthful) subjects can be misclassified as positive (deceptive).”

“The Council on Scientific Affairs, in view of these conclusions, makes the following recommendations:”

“Until polygraph testing and its scoring as currently used in personnel screening can be shown to be valid with a high level of predictability, the AMA should not support the use of polygraph in industry or in federal agencies as a preemployment test. “

“The AMA should also recommend that, when any federal agencies believe that such polygraph screening tests are both ethically acceptable and administratively necessary for security clearance, much more research than is now planned on this specific application should be supported and conducted.”

### C. Validity is Affected by Three Primary Factors:

#### 1. The examiner

- (a) Most authorities agree that the examiner is the single most significant variable in judging the validity of polygraph examinations. Nagle, *The Polygraph in the Workplace*, 18 U. Rich. L. Rev. 43, 52 (1983) (“a lack of sufficient training may render a polygraphist’s results worthless.”); Comment, *Regulation of Polygraph Testing in the Employment Context: Suggested Statutory Control on Test Use and Examiner Competence*, 15 U.C.D. L. Rev. 113, 115 and n.9 (1981), citing, Moenssens, “Polygraph Test Results Meet Standards for Admissibility as Evidence,” in *Legal Admissibility of the Polygraph*, 14, 14-15 (N. Ansley ed. 1975); Comment, *Privacy: The Polygraph in Employment*, 30 Ark. L. Rev. 35, 36 (1976); Burkey, *The Case Against the Polygraph*, 51 A.B.A.J. 855, 856 (1965). Some examiners are highly skilled and well trained in using and interpreting polygraph examinations. Many, however, have fewer than six weeks of training beyond high school.<sup>2</sup> H.R. Rep. No. 99-416, 99th Cong., 1st Sess. 7 (1985). The APA found that “[t]hose giving polygraph tests often have limited training and expertise in psychology and in the interpretation of psychophysiological measures.”
- (b) According to polygraph proponents, the machine works fine, and the problem lies with the administrator of the test. Proponents warn that any test conducted in under 35 minutes, would be ineffective, and that an effective test should take at least 1-1/2 to 2 hours. See, Glass, “Cataldi: Polygraph Tests Usually Accurate If Properly Administered,” *The Daily Record*, Baltimore, March 2, 1934.

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<sup>2</sup> Many schools exist offering courses of instruction in polygraph examining. The typical curriculum lasts six to eight weeks. In contrast, the typical curriculum in colleges for barbers lasts from nine months to one year. Lykken, “Detecting Deception in 1984,” *American Behavioral Scientist* 481, n.3 (March/April 1984), reprinted in, *Polygraphs in the Workplace: Hearings*, at 120.

- (c) Trained or untrained, the polygrapher is called upon to interpret “the meaning of a complex graphic pattern reflecting oral, behavioral and physiological responses.” H.R. Rep. No. 99-416, 99th Cong. 1st Sess. 7. The interpretation must be in one of the three pre-established categories (i.e., indicating deception, inconclusive responses, or truthfulness). Different polygraphers may interpret the same results differently, reaching different conclusions. See generally, Kleinmuntz & Szucko, Fallibility, 17 Law & Soc. Rev. 85, 94 (1982).

## 2. The subject

- (a) The mental and physical condition of the subject can affect the results of the examination. Nagle, The Polygraph in the Workplace, 18 U. Rich. L. Rev. at 50.
- (b) Subjects possessing personal and moral values which place a high value on honesty may be disadvantaged on polygraph examinations, as they may have heightened reactions to questions that appear to cast suspicion on them or to question their honesty. H.R. Rep. No. 99-416, 99th Cong., 1st Sess. 9 (1985).
- (c) A subject’s intelligence may affect the results of a polygraph examination. Highly intelligent subjects may be able to anticipate or recognize relevant questions. This could lead to the subject being able to take counter measures to consciously avoid a stressful reaction. It could also lead to the subject’s over sensitivity to the relevant questions and, thus, a -stressful reaction. The reaction might be caused by deception or simply from stress from recognizing the relevance and significance of the question. See Id.; Scientific Validity of Polygraph Testing: A Research Review and Evaluation--A Technical Memorandum, 85 (Washington, D.C.: U.S. Congress, Office of Technology Assessment, H.R. Doc. No. OTA-TM-H-15, November 1983) (hereinafter “OTA, Validity”); Comment, The Polygraph in Employment, 30Ark. L. Rev. 35, 36 (1976).
- (d) There is some evidence that subjects of different ethnic groups and genders exhibit different stress reactions which may affect polygraph results. OTA, Validity at 86.

## 3. The setting

- (a) The setting in which an examination is given may increase or decrease the subject’s belief that deception can be accurately detected. The polygrapher is more likely to state a conclusion (deception or truthfulness) when the polygraph is administered in a setting that heightens a subject’s concern over detection. Id. at 86. In such circumstances more deception will be detected, but the question remains as to whether lying was the stimulus responsible for the deception.
- (b) To control for extraneous stimuli in the setting which may affect results, stimulation tests are given before and are repeated during the examination. Skolnick, Scientific Theory and Scientific Evidence: An Analysis of Lie Detection, 70 Yale L.J. 694, 697 (1961); Matte, The Art and Science of the Polygraph Technique, 135-140 (Springfield, Ill., Charles C. Thomas, 1980). Sometimes referred to as “card tests,” stimulation tests are designed to convince the subject that the polygraph device is accurate. They are also used to monitor stress conditions during the examination and provide additional data to be taken into account when interpreting the different reactions to control and test questions. Id. See OAT, Validity; Kleinmuntz & Szucko, Fallibility, 17 Law & Soc. Rev. 85, 88 (1982).

## D. Accuracy, a Subset of Validity

Authorities do not agree on whether polygraph testing is accurate or whether greater experience and training improves accuracy.

- 1. Kleinmuntz and Szucko report that their study shows no greater accuracy by more experienced polygraphers. This study included examiners with three months to eight years of experience. They concluded that accuracy was not a function of the polygrapher’s experience. Kleinmuntz & Szucko, Fallibility at 94-95.

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The Kleinmuntz and Szucko study demonstrated an average false positive rate, (the rate at which truthful subjects were identified as deceptive) of 37%. Citing studies by Horvath (1977) (49% false positive rate) and Barland and Raskin (1976) (55% false positive), Kleinmuntz and Szucko conclude that the high fallibility rate of polygraph examinations, regardless of the level of experience, constitutes a built-in bias against innocent subjects. Kleinmuntz & Szucko, Fallibility at 96.

2. There is some evidence that blacks have a higher failure rate on polygraph tests. This difference may be caused by differences among ethnic groups in physiological responses to stress (OTA Report at 86) or by heightened tensions when white polygraphers examine black subjects (A. Barabasz, Galvanic Skin Response and Test Anxiety Among Negroes and Caucasians, Child Study Journal (1970) or prejudices that can enter into an examiner's subjective evaluation. In Johnson v. Alexander's, Inc., 85 Civ. 9691 (S.D.N.Y.), it was claimed that a department store's use of polygraph tests as an initial condition of employment discriminates on the basis of race as blacks disproportionately fail. Pretrial discovery of some one thousand black and white test takers shows a pass rate for whites of 74%, while the pass rate for blacks was 64%.
3. Some contend that when used for discrete, incident specific, investigations, the polygraph is an accurate investigative tool. Nagle, The Polygraph in the Workplace, 18 U. Rich. L. Rev. 43, 76 (1983). See also, OTA, Validity at 97-98 (noting that there is some, but not conclusive, evidence of scientific validity in issue specific criminal applications where a prior investigation narrows the number of suspects and reveals important information about the event before a polygraph examination is administered; OTA reported that even in specific issue applications the error rates could be considered significant). It has been argued that reported studies measuring accuracy and reliability to be between 75% and 95% are sufficient evidence of validity and reliability to support the use of polygraphs. Nagle, The Polygraph in the Workplace, 18 U. Rich. L. Rev. 43, 59-60 (1983).

### IV. Status of Polygraph Evidence in Federal Courts

Since sexual harassment cases fall under federal jurisdiction, this paper will only focus on how the federal courts have treated polygraph evidence. Prior to 1993, federal courts generally found that polygraph evidence is inadmissible *per se* based on the Supreme Court's decision in Frye v. United States, 292 F. 1013 (D.C. Cir. 1923) (hereinafter "Frye"). The Frye decision established that the scientific evidence can be admissible if the scientific technique in question is generally accepted in the relevant scientific community. Id. at 1014. Since there was no general consensus within the scientific community as to polygraph tests, the results were not admissible under Frye. However, in Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 113 S.Ct. 2786 (1993) (hereinafter "Daubert"), the Supreme Court reversed Frye's "general acceptance" test by holding that under the Federal Rules of Evidence, "the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable. Daubert, 113 S.Ct. at 2795. The Court explained that expert testimony will be admissible under Fed.R.Evid. 702<sup>3</sup> based on a more flexible, two-step procedure: (1) whether the evidence is reliable; and (2) whether it is relevant to the particular trial. Id. at 2795. To determine whether expert testimony or evidence is reliable, there must be a showing that it qualifies as "scientific knowledge." The Court noted that while the proposed theory or technique should have "a grounding in the methods and procedures of science," "it would be unreasonable to conclude that the subject of scientific testimony must be 'known' to a certainty." Id. In this regard, it established a non-exhaustive list of factors which should be

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<sup>3</sup> Federal Rule of Evidence 702, entitled, "Testimony by Experts," provides the following:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.

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considered in determining whether expert testimony constitutes “scientific knowledge.” The factors are as follows:

1. “Whether the theory or techniques can be (or has been) tested” by means of scientific methodology;
2. “Whether the theory or technique has been subjected to peer review and publication;”
3. “The known or potential error rate of the technique or theory;”
4. “The existence and maintenance of standards controlling the techniques’ operation;”
5. “Whether the technique is generally accepted within the relevant scientific community.” Id. at 2796-97.

If the theory or technique constitutes “scientific knowledge,” the Court explained that the second step of the Daubert test requires courts to evaluate whether the evidence is relevant to the issues at trial. Id. at 2795. In essence, the proffered evidence must “assist the trier of fact to understand the evidence or to determine a fact in issue.” Id.

As a result, federal circuit courts have begun to reverse the inadmissible *per se* status of polygraph evidence,<sup>4</sup> and there is a growing trend among federal circuits to re-examine the relevance and reliability of polygraph evidence. If some courts should find that polygraph evidence satisfies the two-step procedure under Fed.R.Evid. 702, they also must determine whether the evidence is admissible under Fed.R.Evid. 403<sup>5</sup>.

1. Generally, most federal circuits will permit the parties to admit polygraph evidence if they agree to stipulate as to the evidence, or if the evidence is used solely for the purpose of demonstrating an operative fact. United States v. Crumby, 895 F. Supp. 895 1354, 1356 (D. Ariz. 1995); see United States v. Weiner, 998 F.2d 629 (6th Cir.), *cert. denied*, U.S. , 114 S.Ct. 142 (1993) (holding that it is admissible for the jury to know that the FBI informant took the polygraph evidence in order “to show why he was no longer being used as an informant.” The purpose is not “to prove that he had lied in his answers”).
2. Following Daubert, a number of federal courts have re-evaluated the admissibility of polygraph evidence, and the majority continue to find that polygraph results are too unreliable to constitute “scientific knowledge.”
  - (a) Civil rights cases
    - (i) In Meyers v. Arcudi, 1996 WL 711329, \*1 (D. Conn. 1996), the plaintiff alleged that her supervisor violated Title VII of the Civil Right Act of 1964, because he sexually harassed and intimidated her. The plaintiff underwent a polygraph examination, but did not notify the defendant prior to the examination. Id. In determining whether to admit the plaintiff’s polygraph results, the court found that the results of polygraph examinations do not satisfy the Daubert factors. Id. at \*10. The court explained that although the expert testimony suggested that the error rates of polygraph exams are low (10 percent), the accuracy of the polygraph exam is in doubt because “there are serious flaws which may underestimate the error rates.” Id. at \*6. For instance, the “field true” studies, which review real-life cases filed by attorneys and investigators, are fundamentally flawed as to the scientific validity since it is impossible to ascertain the “ground truth.” Id. Moreover, the attorneys and investigators are offering their subjective determination of

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<sup>4</sup> See United States v. Posado, 57 F.3d 428, 434 (5th Cir. 1995) (holding that the *per se* rule is no longer an obstacle to admissibility for polygraph evidence, but did not determine whether polygraph examinations are scientifically valid and whether they will assist the trier of fact); see also United States v. Kwong, 69 F.3d 663 (2d Cir. 1995); United States v. Sherlin, 67 F.3d 1208 (6th Cir. 1995); Daubert v. Merrell Dow Pharmaceuticals, 43 F.3d 1311 (9th Cir. 1995) (hereinafter “Daubert II”).

<sup>5</sup> Federal Rule of Evidence 403, entitled, “Exclusion of Relevant Evidence on Grounds of Prejudice, Confusion, or Waste of Time,” provides the following:

Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by consideration of undue delay, waste of time, or needless presentation of cumulative evidence.

the truth. Id. As to the “blind review” studies, which use confessions subsequent to the polygraph examinations to determine ground truth, the results do not appear to be accurate because they systematically eliminate tests with errors and include those where the original examiner was shown to be correct. Id. The court also found that “it is not clear that the control question technique has reached a level of general acceptance in the scientific community.” Id. at \* 7. Even assuming that the CQT polygraph examination is reliable and relevant under Fed.R.Evid. 702, the court determined that the balancing test under Fed.R.Evid. 402 would exclude this evidence from trial because there is “a substantial potential for prejudice” due to the “aura of infallibility and conclusiveness to a jury.” Id. at \*8 (quoting Brown v. Darcy, 783 F.2d 1389, 1394 (9th Cir. 1986)). In addition, it would be unfair to the defendants if the plaintiff’s polygraph examination is admitted as evidence since the defendants were neither contacted nor invited to participate in the polygraph examination; the would increase the likelihood of unfair prejudice. Id. at \*9.

- (ii) In Miller v. Heaven, 922 F. Supp. 495, 500 (D. Kan. 1996), the plaintiff brought a civil rights action against a police officer for using excessive force and violating his right to free speech. Both parties took a polygraph test, in which the plaintiff passed but the police officer did not. Id. The court found that the plaintiff had “made an insufficient showing under the [Fed.R.Evid. 702] criteria of Daubert, and excluded the polygraph evidence.” Id. at 503. The court noted that although the polygraph examiner discussed the reliability of polygraph examinations in general terms, he “was unable to articulate with sufficient precision the reasons for its reliability and the manner with which the polygraph examinations such as those he performed on Miller and Officer Heaven have been proven reliable.” Id. at 503-4. Similar to Myers v. Arcudi, this court also considered Fed.R.Evid. 402, and determined that the polygraph results should be excluded because “the probative value of the polygraph evidence was substantially outweighed by the danger of unfair prejudice.” Id. at 504.
- (iii) In Chatwin v. Davis County, 936 F. Supp. 832 (D. Utah 1996), the plaintiff brought a section 1983 suit against the defendant based on her allegation of an illegal strip search while she was in the Davis County Jail. When the plaintiff attempted to introduce polygraph results to show that she was telling the truth, the court held that the evidence should be excluded because the plaintiff “has not made a showing for reliability of the polygraph.” Id. at 838. Moreover, the Tenth Circuit has “cast doubt on the use of polygraph evidence” as proof of a witness’ credibility. Id.

(b) Criminal cases

- (i) In United States v. Cordoba, No. 95-50492 (9th Cir. January 7, 1997), the defendant appealed his conviction for possession of cocaine with the intent to distribute. During the trial, Cordoba attempted to introduce into evidence his unstipulated polygraph examination which found that he was truthful when he responded “no” to questions regarding his awareness of cocaine in the van he was driving. The Ninth Circuit recognized that it can no longer find polygraph results to be inadmissible *per se* based on Daubert. The court explained that it was not “expressing new enthusiasm for admission of unstipulated polygraph evidence,” because “polygraph evidence has grave potential for interfering with the deliberative process.” Ultimately, it remanded the case to the district court for a hearing on whether polygraph evidence should be admitted.
- (ii) In United States v. Kwong, 69 F.3d 663 (2d Cir. 1995), the defendant was convicted of attempted murder of an assistant United States attorney. On

appeal, the defendant argued that the results of a polygraph examination which revealed he passed should have been admitted to show that he is truthful. Id. at 668. Based on Daubert, the court held that it was unwilling admit polygraph results into evidence under Fed.R.Evid. 702, because “the specific testimony here would not likely ‘assist the trier of fact.’” Id. In particular, the court found that “the questions posed to Kwong were inherently ambiguous no matter how they were answered.” Id. Moreover, the court explained that even if it assumed the polygraph results were admissible under Fed.R.Evid. 702, it would “nonetheless find that the results in this case should be excluded under Rule 403.” Id. Since the questions were too ambiguous, the probative value of admitting the polygraph results into evidence would be substantially outweighed by the danger of confusing and misleading the jury. Id.

- (iii) In United States v. Sherlin, 67 F.3d 1208 (6th Cir. 1995), the defendant appealed the trial court’s decision to exclude polygraph evidence from their criminal trial. Sherlin attempted to introduce evidence which showed that he was truthful when he denied burning the dormitory and did not lie to the grand jury. Id. at 1216. The trial court noted that the Sixth Circuit “has consistently recognized that in the absence of a prior agreement between the parties that the results of an examination would be admissible, the probative value of the polygraph is substantially less because the defendant would have not adverse interest at stake in the polygraph.” Id. at 1216-17. In this regard, the use of a polygraph to bolster a witness’ credibility is “highly prejudicial, especially where credibility issues are central to the verdict.” Id. at 1217 (citing Barnier v. Szentmiklosi, 810 F.2d 594, 597 (6th Cir. 1987)). In this case, it appears that the plaintiff’s credibility is probably the central issue. Id.

3. There is a trend among several federal circuits which find that polygraph evidence may qualify as “scientific knowledge,” and would be admissible under limited circumstances.

(a) Criminal cases

- (i) In United States v. Crumby, 895 F. Supp. 1354 (D. Ariz. 1995), the defendant who was indicted for bank robbery moved for an evidentiary hearing in order to admit the results from his polygraph examination. The trial court found that polygraph examinations meet the Fed.R.Evid. 702 requirements established by Daubert. Numerous authorities support the view that the science of polygraphy has been subjected to vigorous scientific testing, which have been published in scholarly articles. Id. at 1359. In addition, “the known error rates for the science of polygraphy are remarkably low.” Id. Surveys have “reported the accuracy rates in excess of ninety percent.” Id. at 1360. The court also noted that the government did not produce any evidence to rebut these studies. Id. As to the general acceptance of polygraph examinations in the relevant scientific community, the court found that the status of the test is questionable; however, it determined that “the general acceptance component of Daubert is not a particularly significant factor.” Id. For those reasons, polygraph results were deemed to be sufficiently reliable and relevant to be admitted as scientific evidence under Fed.R.Evid. 702. Id. at 1361. Although the court recognized the potential prejudicial effects of permitting a jury to consider a polygraphy examination, it held that the evidence will meet the requirements of Fed.R.Evid. 402, if it is “narrowly tailored and admitted only for a limited purpose.” Id. Such evidence may only be used “to impeach or corroborate the credibility of the defendant.” Id. at 1363. The only information that may be revealed to the trier of fact concerns the reliability of the polygraph examination and the ultimate results of the examination. Id. In this manner,

- neither the defendant nor the expert witness is permitted “to testify about the specific questions used on the examination or his specific responses to those questions.” Id.; see also United States v. Galbreth, 908 F. Supp. 877 (D.N.M. 1995) (holding that polygraph evidence satisfies the reliability and relevant requirements under Fed.R.Evid. 702 if the proponent proves that a competent examiner performed that specific test, and then is admissible under Fed.R.Evid. 403 since the results had probative value greater than any possible prejudicial effect).
- (ii) In United States v. Pettigrew, 77 F.3d 1500 (5th Cir. 1996), the defendant appealed the trial court’s decision to exclude his polygraph results after he were convicted of numerous crimes involving bank fraud. The defendant asserts that the polygraph evidence would show that he lacked the intent to deceive the bank regulators regarding the nature of his transactions. Id. at 1514. As to Fed.R.Evid. 702, the trial court found, and the 5th Circuit agreed, that the polygraph questions were immaterial to the issue of whether the defendant intended to deceive the bank regulators. Id. at 1515. Even assuming the polygraph results constituted reliable and relevant evidence under Fed.R.Evid. 702, the court found that there is a strong potential for prejudice created by such evidence. Id. The court explained that under Fed.R.Evid. 402, certain circumstances may be permit the evidence to be admissible. If there are specific safeguards, such as notifying the opposing party of the polygraph test and permitting that party to participate, it is less likely that the evidence would be prejudicial. Id. In addition, if the evidence is offered to a judge in a pretrial suppression hearing, the chances of prejudice would be reduced because a judge is less likely than a jury to be “intimidated by claims of scientific validity.” Id. Since none of these safeguards were met in this case, court determined that there was not an abuse of discretion when the evidence was excluded by the lower court. Id.

## V. Conclusion

The use of polygraph results should not be permitted in civil trials. In this regard, even if both parties agree to stipulate as to the polygraph results, courts should not admit the results into evidence due to issues concerning inaccuracy and prejudicial effects. In particular, there is a tremendous potential for abuse in sexual harassment trials. Although the typical sexual harassment case may result in a swearing match between the alleged victim and the alleged harasser, the introduction of polygraph results as evidence would be an invitation to disaster for many plaintiffs. While at first blush plaintiffs’ attorneys may salivate at the thought of putting a polygrapher on the stand to testify that the plaintiff is a truth teller, one can foresee that, given the imbalance of resources, defendants will trot out polygraphers, more often than plaintiffs.

The polygraph has not been widely accepted in the relevant scientific community, and for good reason -- it is not reliable. Unlike other scientific techniques, which simply measure a known quantity, such as a person’s heart rate, the polygraph requires the examiner to measure a bodily reaction and then interpret that reaction as an indicia of falsehood. In this regard, the polygraph results would be contingent upon the skill and training of the polygrapher, which will vary from state to state. Moreover, there is no proof that every person even exhibits any bodily reactions when lying. For instance, in an extreme case a sociopath probably would not show any signs of guilt. Hence, the theory upon which polygraph examinations are based is flawed, because the polygrapher mistakenly assumes that every person follows the same moral code and would feel guilty about lying.

As to the effects of polygraph evidence at a jury trial, none of the studies can guarantee that the polygraph results will be 100 percent accurate in each specific trial. Without that assurance of accuracy, it would be too prejudicial for the jury to hear that a party passed the examination because it is likely to give the jury a false-sense of certainty as to the credibility of that witness. The majority

## Lie Detectors Belong in Museums, Not in Sexual Harassment Trials

of federal courts which have re-examined the polygraph examination have found that the probative value of the results would be greatly outweighed by the potential prejudicial effect on the jury.