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What Do Polygraphers–Practitioners Expect from Science?

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Abstract

The purpose of the study was to learn the opinions of polygraph examiners concerning the role and applicability of scientific research in detection of deception conducted in Universities or other scientific centres. The questionnare was distributed among participants of the 56th Annual Seminar of the American Polygraph Association (Orlando Fl. 2022). The 55 copies of the questionnare were hande out, 48 completed sheets were returned. As it could been expected, polygraph examiners are generally not interested in of detection of deception other than the ones they currently using in their practice. The new methods of detection of deception, as for example exploiting the neurophysiological level (EEG, fMRI) or methods remotely observable and registrable indicators other than those that have as yet been used in polygraph examination generally was not interested for him.

Key words: detection of deception – science and practice, detection of deception and forensic sciences, polygraph: research and examination

If I had asked people what they wanted, they would have said faster horses.
(Henry Ford)

Introduction

Polygraph examinations have been conducted for state organs as well as for private business enterprises for over a hundred years. At the moment such examinations are performed by at least several thousand polygraphers all around the world.

There would have been no polygraph examinations and, consequently, the polygraph industry, if not for the earlier research conducted by psychologists, physiologists, and forensic science and criminal justice experts (Widacki 2021).

Their work – the achievements of science as such on the one hand, and the experience of police investigators and lawyers on the other – provided the necessary grounds for the lie detection industry. Even today scientific research continues to accompany the practice of polygraph examination. It supports that practice, to a degree stimulating its development but also its limitations.

The role played in the past by for instance the Northwestern University in Chicago, the Catholic Fordham University in New York City, and the University of Utah in Salt Lake City for the practical usage of the polygraph is evident (Widacki 2021).

Unlike the polygraph-practitioners, whose ranks are counted in thousands, university researchers investigating what is broadly construed as the issues of polygraph examinations are few. The subject is hardly ever the object of academic and scientific research conducted in universities or scientific institutes. It is worth mentioning that many polygraphers–practitioners who publish their works in academic journals have obtained doctoral and other degrees.

It is enough to mention that John A. Larson, one of pioneers of polygraph research, held a doctoral degree, and Professor Fred E. Inbau at Northwestern University held an advanced law degree. He trained and worked closely with John E. Reid (who also held a law degree) and his associates and was a strong advocate of the use of proper polygraph testing. Many others who played important roles in the practical usage of the polygraph in the US, to mention S. Abrams, F. Horvath, and G. Barland, held doctoral degrees. Many practitioners in the US and in other countries (e.g., Israel, Poland) know how to use research tools properly and publish methodologically valuable scientific articles, notably in *APA Magazine* and *European Polygraph*, and ear-

lier in *Polygraph*, and monographic works. Their number includes Krapohl, Shaw, and others. Written primarily by practitioners (M. Gougler, R.Nelson, M. Handler, D. Krapohl, P. Shaw, and L. Bierman), the 2012 APA report entitled Meta-Analytic Survey of Criterion Accuracy of Validated Polygraph Techniques is valuable both from the practical and the academic point of view.

It seems that the practice of using the polygraph could benefit much from cooperation with the academic research circles. However, it also seems that the circles of polygraphers–practitioners hardly reach for cooperation with academic centres, operating fully independently from them not only in the US but also in many other countries where the polygraph is used.

Let us try to consider whether it is at all possible to imagine the development of forensic medicine without the operation of academic institutes of forensic medicine, forensic pathology, forensic genetics, forensic toxicology etc.? What would forensic medicine be today if it had only been left to practitioners? And if standards of research were not defined by academic centres? If they did not control, also before the court, the level of expert studies conducted in practice? If they did not work out innovative methods of research? Is there any argument suggesting that the case of polygraph examinations is different than those of forensic medicine and other forensic sciences?

Purpose of the study

The purpose of this study was to learn the opinions of polygraphers–practitioners concerning the role and applicability of scientific research in detection of deception conducted in academic and research centres. To do that a short questionnaire was distributed during the 56th Annual Seminar of the American Polygraph Association in Orlando, Florida in August, 2022.

Method of the study

The questionnaire was distributed among the seminar participants, and 55 copies were handed out. They were primarily presented to all the participants who had been members of the American Polygraph Association for over 10 years ("10 years members"). This was possible, as the seminar organizers annotated the participant IDs with such information as "10 years member", "20 years member", and "25 years

member". Most individuals who received the questionnaire came from the US, yet a handful also represented other countries: Singapore, Czechia, and Poland. All the answers were anonymous, and 48 completed sheets were returned (48/55=87%).

The questionnaire started from two questions:

1. Do you believe that practical polygraphy needs cooperation with research and university centres?

2. Have currently conducted research, and its published results, been useful for your practice?

Those who answered "yes" to the first question were asked to select three subjects of scientific research they believed to be most desirable from a catalogue of nine suggestions. They could also add their own suggestion(s) of subject(s) whose research in academic centres they considered reasonable.

The proposed research areas, from which the respondents were asked to choose the top three, were as follows:

1. to look for the potential to detect deception at neurophysiological level (fMRI, EEG, etc)?

2. to look for options of detecting deception at psychophysiological level but using other indicators (changes in the tone of voice, changes in facial temperature, changes of facial expressions, etc.) Especially the indicators observable and recordable without the consent or even knowledge of the subject.

3. to analyse current practice

4. to look for best methods and models for numerical assessment of the curves

5. to construct new and improve the tests currently in use

6. to study the diagnostic value (both validity and reliability) of various examination tests and techniques, and compare the diagnostic value of polygraph examinations with the diagnostic values of the methods used in medical diagnosing and forensic sciences

7. to determine the impact of psychological and personality disorders on the course and results of polygraph examination

8. to develop software for interpreting polygraph records (curves)

9. to try to find medical and psychological reasons for disruption or interferences in the results

10. Other subjects. Please specify what subjects you mean

Thus, every recipient was asked to choose three subjects that, in their opinion, should become objects of academic research.

Results

As stated, Forty-eight filled in questionnaires were returned. All 48 of the respondents answered "yes" to the first question; there was unanimous agreement that the practical application of polygraph examinations requires cooperation with research and university centres.

The second question (Have currently conducted research, and its published results, been useful for your practice?) received positive answers from 47 (98%) respondents. Only one person answered "no" to this question.

The choices made by the polygraphers are presented in Table 1.

Table 1. Choices made by the polygraphers

Subject No.	No. of votes (n=144)	% of votes (144=100%)
1.	8	5.5
2.	12	8.4
3.	16	11.1
4.	20	13.8
5.	12	8.4
6.	28	19.5
7.	20	13.8
8.	16	11.1
9.	12	8.4
10.	0	0.0
Total:	144	100.0

Table 1 shows that among the topics of most research interest to the respondents the option listed as #6: "To study the diagnostic value (both validity and reliability) of various examination tests and techniques, and compare the diagnostic value

of polygraph examination with the diagnostic value of the methods used in medical diagnosing and forensic sciences diagnosis" was the one most favored. This option was chosen by 28 practitioners, and among the total of 144 total responses it accounted for 20% of all of the answers. There were two runner-up subjects with 20 votes, or about 14% of the total each. They were, in order, options #4 and #7: "To look for the best methods and models for numerical assessment of the curves" and "To determine the impact of psychopathological and personality disorders of the course and results of polygraph examination" respectively.

Altogether, the options #4, #6, and #7 were chosen as most important for the polygrapher practice 68 times of the total of 144; this is about half of all the possible answers (47.2% to be exact).

Only two respondents were interested in work on the methods of detection of deception at the neurophysiological level (option #2), which accounts for less than 1.4% of all the answers. Three respondents (approximately 2%) were interested in option #1, that is looking for methods allowing to detect deception that are contactless, that is those that do not require attaching sensors to the subject's body, and therefore make remote examinations possible, and perhaps without the informed consent of the subject. Only one respondent indicated areas of research that were not included in the first nine.

Conclusion

As could have been expected, polygraphers–practitioners are generally not interested in methods of detection of deception other than the ones they are currently using in their practice. They primarily expect that science would provide them with arguments supporting the diagnostic value of polygraph examinations, which, as it seems, could help them to convince the potential commissioners of services, and support of polygraphers' claims before the courts. They also expect minor tweaks resulting in more precise assessment of polygraph charts.

However, it is justified to believe that the institutions that commission polygraph examinations for their purposes (including intelligence, counterintelligence, law enforcement, etc.) are more interested in looking for new lie detection techniques than the circles of professional polygraphers. Arguments for the above include the research projects commissioned by such institutions as the US Department of Defense (Vendemia 1999).

The new methods of lie detection, exploiting both the neurophysiological level, and remotely observable and registrable indicators other than those that have as yet been used in polygraph examinations, are today the most frequent object of research in academic centres dealing with the detection of deception (Langleben et al,. 2005; Widacki, 2007; Vendemia, 2008; Vendemia, 2014; Widacki, 2018).

One cannot but recall a famous quote from Henry Ford, creator of the US mass automobile industry. He insisted that when asked about the preferred means of transport, people would answer that they needed faster horses. Luckily, he never listened to them and started producing cars. Hence the motto opening my article.

References

Langleben D.D, Loughead J.W., Bilker W.B., Ruparel K., Childress A.R. (2005), Telling truth from lie individual subjects with fast event-related fMRI. *Human Brain Mapping*, 26,4, 262–272.

Philips M.C., Vendemia J.M.C. (2008), Individual Differences in Comparison Question Anxiety. *European Polygraph* 2 (3–4), 5–6.

Vendemia J.M.C. (1999), *Neural mechanisms of deception and response congruity to general knowledge information and autobiographical information in visual two-stimulus paradigms with motor response*. Department of Defence, Polygraph Institute, DoD PI 99-P-0010.

Vendemia J.M.C. (2014), fMRI as a Method of Detection of Deception. A Review of Experience. *European Polygraph* 8, 1 (27), 5–21.

Widacki J. (2007), From forensic psychophysiology to forensic neurophysiology. *European Polygraph* 2, 93–103.

Widacki J., ed. (2018), *Kierunki rozwoju instrumentalnej i nieinstrumentalnej detekcji kłamstwa*. Oficyna Wydawnicza AFM, Kraków 2018.

Widacki J. (2021), *History of Polygraph Examination*, Polskie Towarzystwo Kryminalistyczne, Warszawa 2021.

From the Editor

The article presented above describes a certain reality: handful of facts that result from a questionnaire. Though is commonly agreed that „Facts do not cease to exist because they are ignored" (A. Huxley), nonetheless, both the explanation of the reasons behind these facts and the conclusions ensuing from them can be largely different. That is why Editors of European Polygraph hereby open a discussion and invite all our readers to participate. We are ready to publish your voices on the subject.