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Ways of Revealing Resistance Against Polygraph Testing

It is logical to assume that practically all examined persons involved in events under investigation in one form or another (skilfully or unskilfully) try to resist a polygraph. Considering the easy access to information on modern technologies of carrying out psychophysiological tests in screening (PPT) and ways of fighting against them, the problem of effective attempts at resistance becomes rather relevant. Access to information for non-professionals both as a method of polygraph testing and as a way of counteracting it not only represents a danger from the point of view of decrease in accuracy and

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reliability of results of specific tests, but also, unfortunately, leads to great harm to the professional image as a whole.

The urgency of the problem of fighting such resistance can also be proved by the fact that all the basic members of USA intelligence associations that use polygraphs in their activities – the Ministry of Defence, FBI, Secret Service and many other special services – continue to carry out various closed research on the efficiency of how to resist a polygraph and ways of defeating this resistance. It is especially important to emphasize that the best-known psychophysiologicalists and experts in the field of using a polygraph, such as David Raskin, David Lykken, Charles Honts and many others, have been and continue to be involved in this research.

Analysis of the problem of resistance against the polygraph

In the practice of polygraph tests the following should be understood as resistance: *any deliberate actions of a person involved in an event under investigation attempting to distort his/her reactions with the purpose of avoiding disclosure.*

From this definition it follows that the attempts of some tested persons to control their physiological reactions, for example breathing, with the purpose of reducing or not showing excitement, cannot be regarded as resistance if the task of cheating a polygraph is not the cause. Besides, a non-involved examinee may try to make distortions in the reactions registered just because of a sporting interest, a wish to contradict, or a desire to prove personal superiority over a method. As a rule, such attempts are taken at an initial (pre-test) stage of an examination and are not used at the stage of the basic test due to the competent actions of a polygraphist.

The inadequate behaviour of the examinee should not be taken as a step of resistance that has been caused by the improper actions and instructions of a polygraphist who might have generated the negative attitude of the examinee towards the examination procedure.

The basic difference in resistance that distorts the record of the reaction is *intentional and deliberate* conduct of the examined person and the intentional purpose of these actions.

At present several ways of cheating a polygraph are known, divided into physical, intellectual, pharmacological, hypnosis, measures of mental auto-regulation, communicative measures, etc.

It is necessary to emphasize that such classification is somewhat conditional,

since in practice the expert can face combined methods of resistance, and besides both intellectual methods and techniques of auto-regulation, hypnosis and communicative measures can be fully assigned to versions of psychological methods of resistance against a polygraph. Basically it is not important what measure or technique the examinee uses; it is much more important to be able to identify the fact of resistance.

Therefore, from a practical point of view it is useful to separate *professional* and *non-professional* resistance.

It is possible to speak about *professional* resistance when a person has had special training in the special services. It is possible to speak about opportunities for revealing this kind of resistance by trying to find small differences between parameters of natural reactions caused naturally or spontaneously. It is possible that such differences can be found, for example in one or other signals of brain activity upon registration of an encephalogram.

It is *non-professional* resistance when an involved examinee does not have *practical skills* of using one or another measure to try to cheat a polygraph (knowledge is not yet a skill).

Non-professional resistance can be *spontaneous* or *prepared*. In the latter case the examinee has information on ways of cheating a polygraph before the examination and chooses a certain tactic or measure of resistance for himself, but has no practical experience of how to apply these methods.

In cases of spontaneous resistance, the examinee does not have the information on ways of cheating a polygraph, has not prepared for resistance, and simply tries to do something during the examination. More often spontaneous resistance means trying to show excitement at answers to significant (control) stimulus in one or another way.

Non-professional resistance is quite often accompanied by its visible decoded features, both in behaviour and in registered physiological reactions.

“Paradox of resistance”

It is necessary to note the fact that those individuals who initially have a low psychosomatic limit are essentially more capable of applying mental measures to resist a polygraph screening that is demonstrated in them upon occurrence of expressed psychophysiological reactions at any increased attention or switching attention. The interrelation of a level of psychophysiological reactivity and ability to use measures of mental resistance can be called the “*paradox of resistance*”, which can be formulated as follows:

“The better a person can switch attention to corresponding questions of the test, the greater abilities for mental resistance against a polygraph testing a person has”.

The paradox of resistance can be demonstrated in a different way. For example, during a cognitive (stimulating) test (for example, with the name of the examinee), the worse a personal name becomes apparent in a row, i.e. the higher psychosomatic limit of occurrence of physiological reactions upon switching attention, the less capable of mental resistance a person is.

Complex approach to the problem of dealing with resistance

It is necessary to solve the problem of struggle against resistance not separately, but on the basis of a complex, systematic approach providing active struggle against resistance alongside actually revealed resistance. Use of a systematic approach to the problem of resistance means a simultaneous combination of the following factors:

- use of a set of various methods and means of revealing resistance
- application of a set of methodical measures reducing efficiency of resistance, even when it has been technically successful
- competent actions of a polygraphist on revealing applied measures of resistance and use of effective countermeasures against them.

For the purposes of coping with resistance experts should use two basic approaches in their work.

The first – to be able to reveal signs of resistance in a reaction record, behaviour and verbal answers of the examinee.

The second – to use various psychological measures that should help to complicate the application of the resistance method chosen by the examinee, and psychologically “break” his/her behavioural and tactical disposition, which are intended for struggling against a polygraph or a polygraphist.

In reaction records, non-professional resistance first of all is seen in signals of breath and motor activity *irrespective of the used method*. Signs of resistance can also be observed in signals of arterial pressure or photoplethysmogram (PP) as well as in a signal of galvanic skin response (GSR).

Computer methods of revealing resistance

For revealing deliberate resistance of an examinee, “Diana-02”, the professional polygraph system specially developed for this purpose, can be used, which enables us to automatically conduct analyses of possible resistance level with indication of its relative value and type besides standard functions of the professional polygraph. For that purpose the system shall provide:

- analysis of speech signal parameters, with the purpose of revealing unprepared mental resistance analysis of the motor activity index of the examinee with the purpose of revealing physical resistance against the polygraph test screening
- revealing of atypical changes of breath of the examinee, with the purpose of revealing physical resistance against the polygraph test screening.

Use of Diana-02 provides for a fairly effective performance of a polygraphist in conditions of real resistance against a screening that accordingly leads to an increase in the reliability of results of the conducted test.

Diana-02 has now been successfully used in the Republic of Lithuania for both investigation of felonies and selecting employers for positions in a public service.

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