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Alibi Check by Polygraph Examination

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When we provided the first conception of the Event knowledge test (EKT) (Saldžiūnas & Kovalenko, 2008a,b,c). it was not yet systematized. In later works, we added (Saldžiūnas & Kovalenka, 2012) that one of the main features of the difference between the EKT and CIT (Concealed Information Test) was that the questions-answers for tests were formed not according to the circumstances known about the criminal incident, but according to the versions. Criminologists (investigators) investigating a crime bring at least

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one working version of the crime. When a suspect is questioned, he/she usually provides his/her own version, which is totally or partially different from the versions of the investigators. Sometimes, in the course of investigation, the suspect changes his/her original version. We had many conversations with the polygraph examiners from Belarus, Latvia, Poland and Russia and realized that to date our interpretation of the use of versions for the EKT questions-answers was not sufficiently clear and comprehensible to others. In this article we will try to explain, what it means: *to make the EKT questions-answers according to the versions*.

When a crime is committed, the investigators carry out all necessary procedural steps. Sometimes, there are a lot of first versions of the crime. In the course of investigation a part of the versions is eliminated, and sometimes there appear some new versions. Table 1 provides a general scheme of the question forming according to the versions. This scheme can be applied to most crimes. For the crimes to which this scheme is not suitable, a specific scheme can be developed under the similar principle.

Table 1. Question forming according to versions.

Questions	Version of investigators	Versions of examinee
1. How did you learn about the crime?	The person under examination is a participant of the crime, thus he/she is aware about the circumstances of the crime.	a. the police officers told, when detained b. learned from the procedural documentation c. learned from other participants of the procedure d. learned from mass media e. other sources
2. In what place was the crime committed?	Place A	a. I do not know b. versions listed in 1a-1e
3. How many people were in the place of crime? (or – How many persons committed the crime?)	n number of persons	a. I do not know b. versions listed in 1a-1e
4. Where was the examinee when the crime was committed?	Place A	a. place C b. I do not know c. place A

5.	Who performed one or another action of the criminal incident?	suspect N	a. I do not know b. Person M
6.	How was the crime committed (this question can be divided into several more detailed questions)?	a. it is known from the conclusions of court experts or specialists; b. it is known from the evidences of other participants of the procedure; c. it is not known, there may be only assumptions or versions	a. I do not know b. versions listed in 1a-1e
7.	Where are the evidences hidden?	It is not known, there may be only assumptions or versions	a. I do not know b. versions listed in 1a-1e

We should remind that in the EKT tests, for each question no less than five options of answers are given. We have already provided a partial analysis how the options of answers can be construed to the questions 5 and 6 (Saldžiūnas & Kovalenko, 2009). Then, we called these ways of the answer construction as the tactics of EKT. We shall probably return to this subject and investigate it further in our future articles. The scope of one article does not allow making a thorough review of all the methods of construction of the question-answer versions provided in the Table 1. In this article, we shall limit ourselves to the examination of how, in our opinion, the versions of answers to the question N4 need to be construed – *Where was examinee when the crime was committed?* In criminology and criminalistics, it is known as an alibi check.

Polish polygraph specialists (Lewandowski & Lewandowski, 2005; 2008; 2009) have already discussed this subject. After examining the examples provided in these articles, we have gained the opinion that the other findings can be done as well from the charts provided there. (Saldžiūnas & Kovalenko, 2011).

Where was the examinee when the crime was committed?

What may be the answers to this question according to the versions of the investigators and the person under examination? Of course, if the investigators believe that this citizen must be examined by a polygraph, then they have a suspicion or reconnaissance information that the examinee could have been at the crime scene A when the crime was committed. In this article, we will not amplify on the role which could be performed by the examinee in this

crime, as we have already written about it before (Kovalenka & Saldžiūnas, 2011).

The simplest version of the person under examination can be 'c' – the examinee was in the place A at the moment of the crime, but he/she asserts that he/she has not committed the crime. In such a case, there is no reason to include question 4 in the EKT.

Another version of the examinee may be 'a' – the examinee was not in place A, but was in place B when the crime was committed. In our opinion, it is the most appropriate situation for the polygraph examination.

We shall start from how this test can seem in the CIT version (Konieczny, 2009; Krapohl, McCloughan & Senter, 2006; Nakayama, 2002; Osugi, 2011). Table 2 shows a generalized example of the CIT.

Table 2. The CIT report.

5. Where were you, when the crime was committed?			
1.	Were you at the place W?	NO	
2.	Were you at the place T?	NO	
3.	Were you at the place V?	NO	
4.	Were you at the place A?	NO	Reaction responses
5.	Were you at the place C?	NO	
6.	Were you at the place D?	NO	

Column 3 of the table 2 records the answers of the examinee, who denies his presence at the crime scene. The column 4 marks the reactions of responses in the polygraph chart recorded after each answer.

Possible results of the CIT examination:

1. No one sufficiently clear reaction was recorded after any of the items. It can be assumed that the examinee was not in the place A at the moment of the crime.
2. A reaction was recorded after the item N4 – *Were you at the place A?* (Table 2) It can be assumed that:
 - The examinee was in the place A during the crime;
 - The examinee has been in the place A formerly, but for some reason he does not want to admit it to the examiner (this is quite unlikely – we have encountered no such case in our practical investigations).

- The examinee understands that he/she is a suspect. He/she knows that the crime is committed in the place A. Thus, he/she is afraid of consequences after the polygraph examination. These reasons have been listed by P. Ekman (1992).

We believe that, when the reaction is recorded after the item N4 under the CIT methodology, it is basically impossible to take an objective decision. We fully agree that more additional questions are required to make the decision regarding participation of the examinee in the crime (Saldžiūnas & Kovalenko, 2008b). On the other hand, the question arises whether it is appropriate to include such the low informative question into the CIT questionnaire. Firstly, this question does not help the examiner to deal with the problem; secondly, a lawyer of the examinee can use the weakness of this question during the court proceedings in support of the insecurity of the CIT method.

Since 2004, we have worked with the EKT methodology (Kovalenka & Saldžiūnas, 2011). We have transformed that weakness of the CIT in to one of the advantages of the EKT methodology. We recall that the EKT questions and answers are construed not according to the established circumstances of a criminal incident as in the CIT, but according to the versions of an examiner and an examinee (Table 1). Under the EKT methodology, the question N5 with its versions of answers can be construed as shown in the Table 3.

Table 3. The EKT report (1)

5. Where were you, when the crime was committed?			
0.	You were at the place W	NO	
1.	You were at the place T	NO	
2.	You were at the place V	NO	
3.	You were at the place B	YES	Reaction responses
4.	You were at the place C	NO	
5.	You were at the place A	NO	Reaction responses
6.	You were in some other place	NO	
7.	You really remember where you were.	YES	Reaction responses

According to the EKT methodology, the potential versions of answers rather than the alternative items are given after the question. During the examination, the examinee, upon hearing each version of answer read by the examiner, confirms or denies it (the second column of the Table 3). In the EKT

methodology, it is impossible to do a silent examination (when the examinee does not respond), because the assessment of the examinee is very important. Before the polygraph examination, the examiner does not indicate to the examinee how he/she has to respond after all the versions of answers. The examinee chooses the version of answer him/herself.

The question N5 in the EKT methodology (Table 3) differs from the CIT (Table 2) by the following:

- The offered answer N 0 is placed into the first position. It is usually unused for the assessment of reactions. Therefore, it is necessary to choose the least credible place of the crime – W.
- The answer N 3 is added – *You were at the place B*. This is the examinee's version.
- The answer N 6 is added – *You were at another place*. Whereas there can be just an optimal number of the answer versions after the question, thus the answer including all unmentioned places is introduced there.
- The answer N 7 is added – *You really remember, where you were*. This answer can be relatively called a control answer. When such the control version is included among the answers, the examination procedure shortens, because there is no need to repeat the same question (as in the test according to the CIT) 3–5 times as the polygraph specialists usually do in Japan and USA. Such answers as: *a) You have told the truth about the place, in which you were at the moment of the crime; b) You have answered correctly after all of the listed versions* may be included instead of this controlling answer. Theoretically, all these three controlling answers may be included after the question N5. But we believe that it would be not an optimal solution as they would not provide any new information and the examination would become longer.

Possible results of the examination according to the EKT:

- No sufficiently clear reaction was recorded in the polygrams following the answers. Then, it can be assumed that the examinee was sincere and he/she wasn't at the crime scene. Of course, the final conclusions must be done upon the analysis of reactions following the other questions of the EKT.
- Reactions were recorded after the answers N3, 5, 7 (Table 3). Then, it can be assumed that the examinee was not sincere after the answers N3 and N5. Additionally, it is confirmed by the reaction after the answer N7. This reaction can be caused by the examinee's fear that the examiner can detect that he/she was in place A rather than in place B at the moment of the crime.

When the reactions are recorded following the answers N3, 5, 7, it can be assumed that the examinee was in the crime scene A at the moment of the crime.

- In rare cases, other causes of the examinee's reactions can be recorded. Then, in each such case, it is necessary to perform a separate analysis of the reasons that could cause these reactions.

Here, we have described the case, when the examinee has the particular version of where he/she was at the moment of the crime. In the course of the polygraph examination, it is possible to say, that such a case is the most ideal one. Unfortunately, in most cases, the examinee does not provide a clear version of where he/she was at the moment of the crime. This usually happens, when the polygraph examination is done after several years following the crime. In such cases, the examinee states that he/she wasn't in the scene of crime and does not know where he/she was at the moment of the crime. In that case, the alibi check by means of the polygraph examination is more complicated.

There are two categories of such cases:

1. The examinee states that he/she does not know where he/she was at the moment of the crime and he/she also does not know where the crime scene is (says so).
2. The examinee states that he/she does not know where he/she was at the moment of the crime and he/she knows where the crime was committed.

Table 4. The EKT report (2)

5. Where were you, when the crime was committed?			
0.	You were at the place W	I DON'T KNOW	
1.	You were at the place T	I DON'T KNOW	
2.	You were at the place V	I DON'T KNOW	
3.	You were at the place A	I DON'T KNOW	Reaction responses
4.	You were at the place C	I DON'T KNOW	
5.	You were at the place D	I DON'T KNOW	
6.	You were in some other place	I DON'T KNOW	
7.	You really remember where you were.	I DO NOT REMEMBER	Reaction responses

When the examinee does not know (such is his/her statement) the crime scene, the versions of answers to the question N5 of the EKT are shown in the Table 4. In comparison with the version in the Table 3, here an alternative place D is included instead of the particular place B stated by the person under examination.

Possible results of examination according to the EKT:

- None sufficiently clear reaction was recorded in the charts following the answers. Then, it can be assumed that the examinee was sincere, he/she does not know the crime scene and probably wasn't there. Of course, the final conclusions must be done upon the analysis of reactions following the other questions of the EKT.
- Reactions were recorded after the answers N3 and 7 (Table 4). Then, it can be assumed that the examinee was not sincere after the answers N3 and N7. It can be assumed that the examinee may know the crime scene and for some reasons hides it from the examiner. The examination of the other questions can help in establishing whether he/she was at the crime scene A at the moment of the crime.

The situation changes, when the examinee does not remember where he/she was at the moment of the crime, but he/she knows where the crime was committed. We suggest the version of the answers provided in the table 5.

Table 5. The EKT report (3)

5. Where were you, when the crime was committed?			
0.	You were at the place W	I DON'T KNOW	
1.	You were at the place T	I DON'T KNOW	
2.	You were at the place V	I DON'T KNOW	
3.	You were at the place C	I DON'T KNOW	
4.	You were at the place D	I DON'T KNOW	
5.	You were in some other place	MAYBE	Reaction responses
6.	You don't know, where you were	I DON'T KNOW	Reaction responses
7.	All your answers to that question were correct	YES	Reaction responses

It should be noted that (Table 5):

1. The crime scene A is not mentioned. We believe that including the crime scene A among the answers is beside the purpose. There is a high possibility that a reaction will be recorded in the polygraph chart after that answer and the reason for it, as we have already mentioned, would be difficult to determine.
2. Here, the answer N 5 is very important. We are of the opinion that the „innocent” examinee should not feel increased stress after this answer, i.e. he/she should not see any danger in this answer. The „guilty” examinee should identify „another place” with the crime scene A, therefore the reaction due to increased stress may be recorded.
3. There are two answers among the versions of answers, which we may loosely call controls. It should be noted that they are formulated in a passive form. Bradley and Rettinger (2009) has noted about the effectiveness of the usage of active forms. In the active form, the answer N 7 would be formulated as follows: *You lied after some answers when answering*. Using of the passive forms will not cause stress to the „innocent” examinee.

In the field polygraph examinations, only the polygraph charts of „innocent” examinee are usually analysed easily. The polygraph charts of „guilty” examinee are usually full of artefacts; the curves are usually unstable due to the effect of danger expectation (Bradley, Silakowski & Lang, 2008):

- Uneven breathing;
- Labile EDR;
- Constantly changing heart rate;
- Decreased amplitude of plethysmogram.

The field examinations are often done on examinee with a low level of education, sometimes, degraded persons (drug addicts, alcoholics). Therefore, their perception of the answers N 6–7 (Table 5) is more aggravated. For this reason, we have noticed, that their reactions can start a bit later. The EDR may start at the interval from 0 to 10 seconds rather than at the interval from 0 to 5 seconds (Fig. 1).

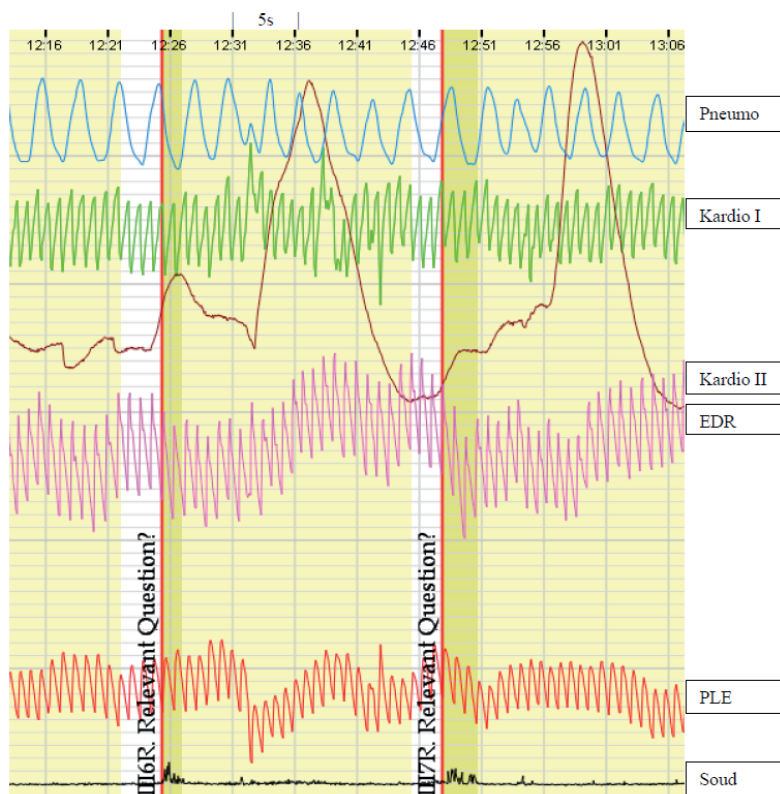


Figure 1. Polygraph chart of the answers N6 and N7

References

- Bradley M.M., Silakowski T., and Lang L. (2008), *Fear of pain and defensive activation*. Pain, 137 (1), 156–163.
- Bradley M. T. & Rettinger J. (1992), *Awareness of crime relevant information and the guilty knowledge test*, Journal of Applied Psychology, 77, 1, 55–59.
- Ekman P. (1992), *Telling Lies*. New York: Norton and Co.
- Konieczny, J. (2009). *Badania poligraficzne. Podręcznik dla zawodowców*, Warszawa, Wydawnictwa Akademickie i Profesjonalne [text in Polish].
- Krapohl D., McCloughan J. & Senter S. (2006), *How to use the concealed information test*, Polygraph, 35(3), 123–138.

- Kovalenka A., Saldžiūnas V. (2011), *Legal regulation and practice application of polygraph examinations in Republic of Lithuania*, in Criminalistics and forensic examination – correlations, Chapter II, Vilnius, 52–69 [text in Lithuanian].
- Lewandowski E. (2005), *Sprawdanie alibi w badaniach poligraficznych (war-iagraficznych)*, Problemy kryminalistyki, 247, 19–21 [text in Polish].
- Lewandowski E., Lewandowski L. (2008), *Alibi testing potential in polygraphic examination*, European Polygraph, 1 (3), 31–47.
- Lewandowski E., Lewandowski L. (2009), *Forensic examination of memory traces (Part 1)*, European Polygraph, 3–4 (9–10), 153–165.
- Nakayama M. (2002), *Practical use of the concealed information test for criminal investigation in Japan*. Handbook of polygraph testing. London: Academic Press.
- Osugi A. (2011), Daily application of concealed information test: Japan, In Verschuere B. & al. (ed.), *Memory detection*. Cambridge university press. 253–275.
- Saldžiūnas, V., Kovalenko, A. (2008a), *The Event Knowledge Test*. European Polygraph, 1 (3), 21–29.
- Saldžiūnas V., Kovalenko A. (2008b), *The event knowledge test (EKT) in Polygraph Examination (in case murder)*, European Polygraph, 2 (4), 137–142.
- Saldžiūnas V., Kovalenko A. (2008c), *The event knowledge test (EKT) in Polygraph Examination (common notice of tactics)*, European Polygraph, 3–4 (5–6), 209–220.
- Saldžiūnas V., Kovalenko A. (2009), *Problems of questions in event knowledge test*, European Polygraph, 3 (2), 69–75.
- Saldžiūnas V., Kovalenka A. (2011), *A little about memory trases*, European Polygraph, 1 (15), 11–25.
- Saldžiūnas V., Kovalenka A. (2012), *Преимущества теста знания обстоятельств события*, Эксперт-Криминалист, 1, 27–31 [text in Russian].